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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 107, 171, 172, 173, 178, 179, and 180

[Docket No. PHMSA-2017-0120 (HM-219C)]

RIN 2137-AF33

Hazardous Materials: Adoption of Miscellaneous Petitions to Reduce Regulatory Burdens

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This rulemaking responds to numerous petitions for rulemaking submitted by the regulated community that request PHMSA address a variety of provisions, including but not limited to those addressing packaging, hazardous communication, and incorporation by reference documents. PHMSA proposes amendments to the Hazardous Materials Regulations to update, clarify, improve the safety of, or provide relief from various regulatory requirements. The proposed amendments include adopting a phase-out schedule for certain railroad tank cars used to transport materials poisonous by inhalation, allowing the continued use of certain portable and mobile refrigerator systems commonly used in the produce industry, incorporating an industry standard that can help to enhance the production of oil and gas wells, and incorporating an updated consensus standard which applies to the existing market for fireworks; as well as additional

proposed amendments derived from PHMSA's petition for rulemaking process.

DATES: Comments must be submitted by [INSERT DATE 60 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER]. To the extent possible, PHMSA will consider late-filed comments as a final rule is developed.

ADDRESSES: You may submit comments by identification of the docket number (PHMSA-2017-0120 (HM-219C)) by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- *Fax:* 1-202-493-2251.
- *Mail:* Dockets Management System; U.S. Department of Transportation, Dockets Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.
- *Hand Delivery:* To U.S. Department of Transportation, Dockets Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC, between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and docket number for this notice at the beginning of the comment. All comments received will be posted without change to the Federal Docket Management System (FDMS), including any personal information.

Docket: For access to the dockets to read background documents (including the Preliminary Regulatory Impact Analysis (PRIA)) or comments received, go to <http://www.regulations.gov> or DOT's Docket Operations Office (see ADDRESSES).

FOR FURTHER INFORMATION CONTACT: Steven Andrews or Candace Casey at (202) 366-8553 at the Office of Hazardous Materials Standards, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.

SUPPLEMENTARY INFORMATION:

Abbreviations and Terms

AAR	Association of American Railroads
ACC	American Chemistry Council
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
AESC	Association of Energy Service Companies
APA	American Pyrotechnics Association
ASME	American Society of Mechanical Engineers
ASME BPVC	ASME Boiler and Pressure Vessel Code
ATCCRP	Advanced Tank Car Collaborative Research Program
CPC	Casualty Prevention Circular
CEQ	Council on Environmental Quality
CGA	Compressed Gas Association
COSTHA	Council on Safe Transportation of Hazardous Articles
DGTA	Dangerous Goods Trainers Association
DOT	Department of Transportation
EPA	Environmental Protection Agency
GVWR	Gross Vehicle Weight Rating
HMR	Hazardous Materials Regulations
HMT	Hazardous Materials Table (49 CFR §172.101)
IAEA	International Atomic Energy Agency
IBC	Intermediate Bulk Container
IBR	Incorporation by Reference
ICAO	International Civil Aviation Organization

ICAO Technical Instructions	ICAO Technical Instructions for the Safe Transport of Dangerous Goods
IIAR	International Institute of Ammonia Refrigeration
IMDG Code	International Maritime Dangerous Goods Code
IME	Institute of Makers of Explosives
JPG	Jet Perforating Gun
MAWP	Maximum Allowable Working Pressure
MTC	Manual of Tests and Criteria
NPRM	Notice of Proposed Rulemaking
OMB	Office of Management and Budget
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIH	Poison Inhalation Hazard
PRD	Pressure Relief Device
PRIA	Preliminary Regulatory Impact Analysis
PSI	Pounds per Square Inch
PSIG	Pounds per Square Inch Gauge
RCRA	Resource Conservation and Recovery Act
RID	European Agreement Concerning the International Carriage of Dangerous Goods by Rail
RIPA	Reusable Industrial Packaging Association
RSI	Railway Supply Institute
TDG	Transport of Dangerous Goods
TPED	Transportable Pressure Equipment Directive
TTMA	Truck Trailer Manufacturers Association
UN Model Regulations	United Nations Recommendations on the Transport of Dangerous Goods: Model Regulations
Unified Agenda	Unified Agenda of Federal Regulatory and Deregulatory Actions
UNSCOE TDG	United Nations Sub-Committee of Experts on the Transport of Dangerous Goods

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I. Background

The Administrative Procedure Act requires Federal agencies to give interested persons the right to petition an agency to issue, amend, or repeal a rule (*See* 5 U.S.C. 553(e)). PHMSA's rulemaking procedure regulations (*See* 49 Code of Federal Regulations (CFR) 106.95) allows persons to ask PHMSA to add, revise, or delete a regulation by filing a petition for rulemaking containing adequate support for the requested action. In this NPRM, PHMSA (also "we" or "us") proposes to amend the HMR in response to petitions for rulemaking submitted by shippers, carriers, manufacturers, and industry representatives. These proposed revisions are intended to reduce regulatory burdens while maintaining, or enhancing, the existing level of safety. We discuss the petitions and proposals in detail in Section II of this NPRM. In this NPRM, PHMSA proposes to:

- Prohibit after December 31, 2020, the use of rail tank cars with shells or heads constructed of non-normalized steel used for transportation of poison-by-inhalation (PIH) materials.

- Harmonize the limited quantity exceptions for more than 100 entries for corrosive materials in the HMT.
- Revise § 173.302(b)(2) to allow a minimum height of 12 mm (0.47 inches) for a proper shipping name marked on a portable tank with a capacity of less than 3,785 L (1,000 gallons).
- Revise § 173.28(c)(1)(i) to add the words “substantially removed” in the context of cleaning metal drums for reuse and clarifying the requisite cleaning standard.
- Revise § 173.5b to allow for the continued use of Portable and Mobile Refrigerator Systems placed into service prior to 1991 that are rated to a minimum service pressure of 250 pounds per square inch (psig).
- Incorporate by reference updated versions of multiple CGA publications.
- Remove the reference to Special Provision 103 in § 172.101 from Column (7) for four HMT entries to allow them to be shipped as safety devices.
- Revise the HMT entry for “UN0503, Safety Devices, pyrotechnic” to allow the shipper to use the exceptions provided in § 173.166(d).
- Remove the words “manufactured before September 1, 1995” from § 180.417(a)(3) to allow for an alternative report for cargo tanks manufactured after September 1, 1985.
- Revise the basis weight tolerance provided in § 178.521 from ± 5 percent to ± 10 percent from the nominal basis weight reported in the initial design qualification test report for paper shipping sacks.

- Revise § 173.308(d)(3) to harmonize with the IMDG Code by removing the requirement for a closed transport container to have the warning mark “WARNING - MAY CONTAIN EXPLOSIVE MIXTURES WITH AIR - KEEP IGNITION SOURCES AWAY WHEN OPENING” when transporting lighters.
- Make the “interim” rail tank car specifications the “final” specifications for the transportation of PIH materials.
- Prohibit after December 31, 2027, the use of certain rail tank cars for the transportation of PIH materials.
- Allow for all waste materials to be managed in accordance with the lab pack exception and associated paragraphs in § 173.12 irrespective of whether they meet the definition of a hazardous waste per the EPA or the RCRA.
- Incorporate by reference the 2017 version of the ASME BPVC Sections II (Parts A and B, C and D), VIII (Division 1), and IX into the HMR.
- Revise §§ 171.23, 173.302, and 173.304 to permit the import of filled pi-marked foreign pressure receptacles for intermediate storage, transport to point of use, discharge, and export as well as the import of certain pi-marked foreign pressure receptacles filling, intermediate storage, and export.
- Revise the language in § 173.166 to clarify the term “recycle” by adding the word “metal” in front of “recycling.”
- Correct § 171.7(r) to include the address of the IME and to incorporate the IME/Association of Energy Service Companies (AESC) JPG Standard, also known as the *“Guide to Obtaining DOT Approval of Jet Perforating Guns using*

AESC/IME Perforating Gun Specifications,” Ver. 02, dated September 1, 2017 as material incorporated by reference.

- Update to the January 1, 2018 version of the APA Standard 87-1, “*Standard for Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics*”, which is currently incorporated by reference in § 171.7(f) of the HMR.

II. Review of Proposed Amendments

1. Phase-Out of Non-Normalized Tank Cars Used to Transport PIH Materials

In its petition (P-1646), AAR requested that PHMSA consider an amendment to prohibit the use of rail tank cars with shells or heads constructed of non-normalized steel for transportation of PIH materials. In its petition, AAR states that the use of pressurized tank cars constructed from non-normalized steel for rail transportation of PIH materials poses an unnecessary risk to the public. AAR adds that non-normalized steel is susceptible to brittle fractures at lower temperatures, and brittle fractures are far more likely to result in a catastrophic failure and instantaneous release of a car’s entire contents than ductile fractures. While a slow release of contents generally has time to dissipate in the atmosphere, AAR notes that an instantaneous release creates a concentrated toxic cloud with potential catastrophic consequences for the nearby population. AAR has required that tank cars built since 1989 and used in PIH service must be constructed of normalized steel.

PHMSA believes the phase-out of these legacy rail tank cars would have a positive impact on safety due to their replacement with more robust tanks cars used for the transportation of PIH materials. On April 7, 2017, AAR adopted CPC-1325, which implemented a phase-out of these non-normalized (legacy) steel tank cars in PIH service by July 1, 2019. On July 27, 2018, AAR revised CPC-1325 and re-issued it as CPC-1336, but kept the July 1, 2019 phase-out deadline for the non-normalized steel tank cars. CPC-1336 is incorporated into the AAR members' railroad interchange rules that railroads require compliance with as a condition of shipping hazardous materials by rail. PHMSA proposes to respond to P-1646 by codifying a phase-out of these non-normalized steel tank cars in the HMR that would take effect as of December 31, 2020. PHMSA proposes this date as a general approximation of when this rulemaking is expected to be finalized. However, the AAR phase-out is expected to go into effect regardless of whether PHMSA adopts July 1, 2019, December 31, 2020, or another date into regulation. As a result, there is no cost associated with PHMSA aligning this date as a regulatory deadline. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in phasing-out these non-normalized rail tank cars used for the transportation of PIH materials. In this NPRM, PHMSA is proposing to revise § 173.31 to phase-out non-normalized steel rail tank cars for the transportation of PIH materials by December 31, 2020.

2. Limited Quantity Shipments of Hydrogen Peroxide

In its petition (P-1658), Steris requested a revision to the HMT for limited quantities of hydrogen peroxide. Specifically, this petition requests that PHMSA harmonize Column (8A) packaging exceptions for limited quantities of “UN2014, Hydrogen peroxide aqueous solution,” with the UN Model Regulations. Currently, the HMT does not allow the limited quantity exception for UN2014, while various other international standards and regulations such as the UN Model Regulations provide for transport of UN2014 in limited quantities, up to 60 percent concentration. Steris argues that harmonizing with the UN Model Regulations would provide economic and logistics consistency in global transport of this material in limited quantities and would facilitate commerce for domestic companies.

The shipment of limited quantities of materials similar to those proposed in this petition is already permitted under the HMR. Therefore, PHMSA believes that expanding the exceptions to these additional materials would not cause a reduction in safety. In addition, because these are exceptions to the HMR, PHMSA would expect cost savings to be achieved if the proposal is finalized. However, due to a lack of national data on these types of shipments, PHMSA was unable to quantify the specific cost savings that would result from this change. A more detailed discussion of this economic analysis of this proposal can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in proposing this revision to the HMT. In this NPRM, PHMSA is proposing to revise Column (8A) of the HMT for “UN2014, Hydrogen peroxide aqueous solution” to allow limited quantities packaging exceptions for this material by referencing § 173.152 for exceptions for Division 5.1 oxidizers.

3. Markings on Portable Tanks

In his petition (P-1666), William J. Briner suggested that the HMR be revised, consistent with § 172.302(b)(2) and Section 5.3.2.0.2 of the IMDG Code, to allow a minimum height of 12 mm (0.47 inches) for proper shipping name markings on portable tanks with a capacity of less than 3,000 L (792.52 gallons). The revision would also eliminate confusion about the size of markings on portable tanks, as there is no requirement that they be marked with the proper shipping name under the HMR when they are placarded.

A technical review of this petition found that harmonizing the size of this marking with the IMDG Code would not have a negative effect on safety. While this proposal would allow for smaller markings on portable tanks with a capacity of less than 3,000 L (792.52 gallons), PHMSA is unable to quantify these cost savings as it does not have cost data on the savings gained from using smaller markings and to how many stakeholders they might apply. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in proposing this revision. However, PHMSA believes the size limit of the container should be consistent with the 3,785 L (1,000 gallon) limit currently in this section. In this NPRM, PHMSA is proposing to revise § 172.302(b)(2) to allow that proper shipping name markings on portable tanks with a capacity of less than 3,785 L (1,000 gallons) to be a minimum of 12 mm (0.47 inches).

4. Reconditioning of Metal Drums

In its petition (P-1670), RIPA requested a revision to § 173.28(c)(1)(i) to require that labels be *substantially* removed, rather than simply removed. RIPA believes that a strict reading of the current regulation asks for an impossible standard, as the full removal of coatings and labels (including their adhesive residues) is practically impossible. RIPA justifies this request by noting that current cleaning and surface preparation processes have been generally accepted for the last 60 years and have never been considered a safety issue.

A technical review of the petition found there is no evidence that allowing for minimal amounts of residual glue to remain on a drum after cleaning would have any effect on safety. However, PHMSA asserts that there must be a standard to which the drums are cleaned for the coatings and labels to be considered substantially removed. While this proposal is a relaxation of the requirements in the HMR, PHMSA is unable to quantify these cost savings because it does not have data on the cost differences between “removed” and “substantially removed,” or to how many firms they might apply. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found that there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is also proposing to revise § 173.28(c)(1)(i) to allow tightly adhering paint, mill scale, and rust to remain on no more than 10 percent of each unit’s surface area.

5. Limited Quantity Harmonization

In its petition (P-1676), URS Corporation requests revisions to Column (8A) of the HMT to allow for the shipment of several hazardous materials to be shipped as limited quantities. Specifically, this petition requests that PHMSA harmonize Column (8A) of the HMT for limited quantities for 45 proper shipping names. Currently, the HMT does not allow the limited quantity exception for the materials listed by the petitioner. URS Corporation indicates that if the limited quantity exception is not added to the HMT as proposed, then there would continue to be confusion about hazardous materials shipments imported into the United States that are prepared as limited quantity shipments under international regulations.

A technical review of the petition identified a total of 114 entries in HMT that are not in alignment with the UN Model Regulations, including all of those listed in the petition. The review found that 64 of the 114 entries diverge from the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods (ICAO Technical Instructions). The ICAO Technical Instructions permit all 64 entries to be shipped as a limited quantity. The shipment of limited quantities of similar materials is already permitted under the HMR, and expanding the exceptions to these additional materials would not cause a reduction in safety. Because these are exceptions to the HMR, PHMSA would expect cost savings to be achieved if the proposal is finalized. However, due to a lack of national data on these types of shipments, PHMSA was unable to quantify the specific cost savings that would result

from this change. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is proposing to revise Column (8A) (exceptions) of the HMT consistent with the UN Model Regulations for 114 identified entries.

6. Mobile Refrigeration Units

In its petition (P-1677), the IIAR requests that PHMSA consider changes to § 173.5b for portable and mobile refrigerator systems commonly used in the produce industry. Specifically, this petition proposes to allow the continued use of mobile refrigeration units placed into service prior to 1991 that meet the 250 pounds per square inch (psig) service pressure specification. PHMSA also issued an enforcement discretion memo on September 28, 2017 allowing the continued use of mobile refrigeration units that are tested to a service pressure of 250 psig.

A technical review of this petition found there should be no reduction in safety by allowing the continued use of mobile refrigeration units that are tested to a service pressure of 250 psig. PHMSA believes allowing the continued use of these mobile refrigeration units would allow the agricultural industry to accrue substantial cost savings. In the PRIA, PHMSA estimates there would be approximately \$1,000,000 in annualized costs savings to the agricultural industry resulting from the continued use of mobile refrigeration units currently in service. A more detailed accounting of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit to allowing the continued use of these mobile refrigeration units, under certain conditions. In this NPRM, PHMSA is proposing to revise § 173.5b to allow the continued use of certain portable and mobile refrigerator systems that meet the 250 psig service pressure specification by removing the prohibition of use of refrigeration systems placed into service before June 1, 1991, specified in paragraph (b)(6).

7. Incorporation by Reference of CGA Standards

Certain CGA standards are incorporated by reference in § 171.7 of the HMR. Multiple petitions to update CGA standards were submitted to PHMSA for review. These petitions include:

- Petition (P-1679) - CGA proposed that PHMSA IBR CGA C-6.3, “Standard for Visual Inspection of Low Pressure Aluminum Alloy Cylinders, 2013, Third Edition”¹ into § 171.7 to replace the outdated reference to the First Edition of this standard published in 1991.
- Petition (P-1680) - CGA proposed that PHMSA IBR CGA S-7, “Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders, 2013, Fifth Edition” into § 171.7 to replace the outdated reference to the 2005 Fourth Edition of this standard.
- Petitions (P-1684) and (P-1693) - In two separate petitions, Worthington Cylinders and CGA requested that § 171.7 be updated to include the most recent

¹ Previous edition of this document was titled “Guidelines for Visual Inspection and Requalification of Low Pressure Aluminum Compressed Gas Cylinders, 1991, First Edition.”

version of the CGA C-11, “Practices for Inspection of Compressed Gas Cylinders at Time of Manufacture, 2013, Fifth Edition” and that references to the outdated Third Edition of this standard published in 2001 be removed. These petitions also request modifications to § 178.35(b) and (c) to refer to CGA C-11.

- In petition (P-1694) - CGA proposes that PHMSA IBR C-6.1-2013, “Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders” into § 171.7 of the HMR. This sixth edition of CGA C-6.1-2013 would update and replace current references to the 2002 Fourth Edition.

A technical review of these petitions found that the IBR of revised standards would not result in a reduction in safety and would likely enhance safety. It is important for the HMR to reflect the most recent version of these cylinder IBR documents to ensure the safe transportation of compressed gases. There were no quantifiable cost savings identified with these IBR documents. These IBR revisions are primarily technical in nature and do not have a material effect on the cost of business. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in proposing updates to these IBRs in § 171.7 of the HMR. In this NPRM, PHMSA is proposing to IBR the updated CGA publications in § 171.7 of the HMR.

8. Special Provision for Explosives

In its petition (P-1681), the IME proposed that PHMSA remove Special Provision (SP) 103 from § 172.102, as well as remove references to SP 103 from Column (7) of the

HMT for the following entries: “UN 0361, Detonator assemblies, non-electric, for blasting”; “UN 0365, Detonators for ammunition”; “UN 0255, Detonators, electric, for blasting”; and “UN 0267, Detonators, non-electric, for blasting.”

IME requests this change to harmonize the HMR with the UN Model Regulations, which has no provision capping the net explosive mass that may be involved in a limited propagation of detonators within a package classed as Division 1.4B at 25 grams as described in SP 103. Detonators must only pass the tests prescribed by the UN MTC to be transported (in this case pass the UN Test Series 6 requirements). The manual contains the criteria, test methods, and procedures used for the classification of dangerous goods (i.e., hazardous materials) per the provisions of UN Model Regulations to ensure an appropriate level of safety. Only those detonators that successfully pass tests prescribed for Division 1.4B may be classed in this hazardous materials category. The changes IME requests would align the HMR with the UN Model Regulations.

A technical review of this petition found that the removal of this special provision is necessary to harmonize with the international regulations and would have no effect on safety. Since these special provisions are no longer in wide use, PHMSA does not believe there would be any quantifiable cost savings. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in removing this special provision from the four entries in the HMT. In this NPRM, PHMSA is proposing to remove the references to SP 103 for these four entries in Column (7) of the HMT. Also, because

SP 103 is only assigned to these four entries, PHMSA is proposing to delete SP 103 from § 172.102.

9. EX Numbers and Safety Devices

In its petition (P-1683), the Ford Motor Company requested a change to the HMT to remove the word "None" and replace with "166" in Column (8A) for the proper shipping name "UN 0503, Safety Devices, pyrotechnic." This is a reference to authorized packaging for safety devices found in § 173.166. Ford Motor Company believes this omission prevents the shipper of these devices from applying the requirement to include the EX number on the shipping document as found in § 173.166(c), and does not allow the shipper to use the exceptions provided in § 173.166(d). Ford believes the omission is a typo in the HMT and should be corrected.

PHMSA's technical review of this petition determined, consistent with the Ford Motor Company petition, that the exclusion of "166" in Column 8A of HMT for "UN 0503, Safety Devices, pyrotechnic" was an oversight from a previous rulemaking. There is no reason from a safety perspective why "UN 0503, Safety Devices, pyrotechnic" would not be eligible for shipment as a safety device in accordance with § 173.166. Insufficient data on the number of shipments effected limits PHMSA's ability to quantify potential cost savings. In addition, it is perhaps likely that industry is already taking advantage of the exceptions in paragraph (d)(1) whenever the situation allows, and existing requirements in § 172.320(b) already require the EX number. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found there is merit to proposing this revision to the HMT. In this NPRM, PHMSA is proposing to remove the word “None” from Column (8A) for the proper shipping name “UN 0503, Safety Devices, pyrotechnic” in the HMT and replace it with “166” to authorize use of packaging requirements for safety devices.

10. Alternative Reports for Cargo Tanks

In its petition (P-1685), Polar Service Systems proposes revising the HMR to allow an alternative report for cargo tanks to replace a missing certificate of compliance for cargo tanks manufactured before September 1, 1995. The petition recommends accomplishing this by removing the words “manufactured before September 1, 1995” from § 180.417(a)(3). The petitioner indicates that there is currently no provision to allow the use of alternative reports when a certificate of compliance is unavailable for cargo tanks manufactured after September 1, 1995. Some cargo tank manufacturers have gone out of business in the past 20 years, making it impossible for a tank owner to obtain a missing certificate of compliance from the manufacturer.

PHMSA’s technical review of the petition found there are existing problems with maintaining the required documentation of Cargo Tanks and Cargo Tank Motor Vehicles (CTMVs) when manufacturers are no longer in business. This is true irrespective of the date to which alternative documentation is allowed in § 180.417. PHMSA does not believe there would be an effect on safety because the same testing and recordkeeping requirements would apply to manufacturers that could take advantage of this proposed revision. Alternatively, in the absence of this proposed change, packages with useful life

remaining could be forced out of service. This petition is not expected to result in any material cost to industry. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is proposing to revise the language in § 180.417(a)(3) to allow for alternative reports when a manufacturer's certificate is not available regardless of date of manufacture.

11. Weight Tolerances for Paper Shipping Sacks

In its petition (P-1688), the Paper Shipping Sack Manufacturers Association proposes that PHMSA revise the basis weight tolerances for liners and mediums used in the manufacture of multiwall shipping sacks. Specifically, this petition requests that PHMSA revise the basis weight tolerance provided in § 178.521 from ± 5 percent to ± 10 percent from the nominal basis weight reported in the initial design qualification test report. The petitioner notes that multiwall sacks are manufactured on the same or technically equivalent machines that manufacture the liners for fiberboard boxes. PHMSA revised the basis weight tolerances from ± 5 percent to ± 10 percent for fiberboard boxes in the HM-219A final rule, published on November 7, 2018 [83 *FR* 55792].

PHMSA's technical review of this petition found that the paper used to manufacture paper bags is made on the same machines or similar machines as that used to make fiberboard boxes. Given the technical data presented in the petition, which

included linerboard drop and dynamic compression tests, PHMSA concluded that a small reduction (or a nearly infinite increase) in basis weight of the paper used in manufacturing fiberboard boxes does not affect performance, it is expected that paper bags will behave similarly. PHMSA estimates the total potential annualized cost savings to the industry of \$20,000 to \$200,000. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is proposing to revise § 178.521 to revise the nominal basis weight reported in the initial design qualification test report from ± 5 percent to ± 10 percent.

12. Markings on Closed Transport Containers

In its petition (P-1690), Matson proposes that PHMSA amend § 173.308(d)(3) to remove the requirement for a warning to be placed on the access door of a closed transport vehicle or a closed freight container when lighters are transported by vessel. Matson notes that a similar warning is not required by the IMDG Code, meaning that the HMR is not harmonized in this respect.

As noted above, this requirement is only in the HMR and is not required in the IMDG Code. PHMSA's technical review of this petition found that harmonizing this section with the IMDG Code would not result in a reduction in safety. PHMSA believes the existing hazard communication requirements (transport documents, container placard, etc.) provide a sufficient level of safety that is consistent with requirements for other

Division 2.1 materials. As the petition eliminates a warning marking requirement and provides regulatory clarity through harmonization, we anticipate no associated costs from this proposal. However, PHMSA was unable to quantify any cost savings associated with this petition. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is proposing to amend the lighter transportation requirement in § 173.308(d)(3) to remove the requirement for vessel transport of a closed transport vehicle or freight container to display the warning mark “WARNING - MAY CONTAIN EXPLOSIVE MIXTURES WITH AIR - KEEP IGNITION SOURCES AWAY WHEN OPENING” on the access door.

13. Finalization of the HM-246 Tank Car Standard

In a joint petition (P-1691), AAR, the Chlorine Institute, ACC, the Fertilizer Institute, and RSI request that PHMSA convert certain “interim” rail tank car specifications to “final” tank car specifications. The subject tank car specifications were issued as part of the January 13, 2009, final rule entitled “Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials (HM-246),” (74 *FR* 1769), which was targeted at improving the safe transportation of PIH materials by rail.

The HM-246 final rule contained interim design standards for rail tank cars transporting PIH materials to be used until a permanent standard could be issued by PHMSA. The final rule prescribed enhanced safety measures for PIH materials

transported in rail tank cars, primarily stronger tanks with higher tank test pressures, fittings, tank head-puncture resistance protection and, for some commodities, thermal protection. The HM-246 final rule was the result of industry consensus that an updated standard was necessary to improve accident survivability, even as research continued to develop a long-term PIH tank car specification.

The ATCCRP² suggests the HM-246 interim specification provides a significant level of improvement over the legacy designs and there are few additional economical options to improve standards beyond the interim standard. According to the petitioner, PIH tank cars built in compliance with the HM-246 interim standards have performed well in service. In addition, conclusions from the various ATCCRP projects provide scientific support to make the interim specifications permanent. Conclusions resulting from these safety research efforts, as reported by ATCCRP, include:

- The “interim” standard designs finalized in 2009 provide significant improvement in accident survivability over the legacy designs, i.e., former specifications; and
- No design feature or material was identified that would provide a significantly greater level of improvement, or would be a reasonable alternative (from an economic or manufacturability standpoint) that should be required industry-wide.

PHMSA’s technical review of this petition found that the HM-246 compliant rail tank cars have an established safety record with no major incidents attributed to the

² The ATCCRP coordinates research efforts to enhance the safety and security of rail tank car shipments of toxic inhalation hazard (TIH) materials. It is a joint effort comprised of shippers of tank cars carrying TIH materials (represented by ACC, the Chlorine Institute, and the Fertilizer Institute); railroads that transport hazardous materials (represented by AAR); and rail tank car builders and lessors (represented by RSI). For more information, see <https://tankcarresourcecenter.com/wp-content/uploads/2017/11/ATCCRP-Research-Background-2016.pdf>.

design of the tank car. The petitioner's requested changes are not expected to result in any material costs to industry, as the costs of this proposed amendment are already accounted for in the analysis of HM-246 final rule, which adopted the interim tank car standard. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA found there is merit to proposing this revision to the HMR. In this NPRM, PHMSA is proposing to revise §§ 173.314(c) and 173.244(a)(2) of the HMR to make the HM-246 rail tank car specification permanent for the transportation of PIH materials.

14. Phase-out of non-HM-246 Compliant Rail Tank Cars

In 2006, after several major PIH rail tank car accidents, AAR began to release a series of CPCs that mandated the use of a safer design for tank cars that transport PIH materials. On March 31, 2008, AAR published CPC-1187 implementing design specifications for tank cars used in PIH service. CPC-1187 also included a 10-year phase-out schedule for tank cars that did not meet the CPC-1187 specification. According to the new AAR standard, non-compliant tank cars would not be accepted for interchange after December 31, 2018.

On April 1, 2008, PHMSA published an NPRM proposing revisions to the HMR to improve the crashworthiness protection of railroad tank cars designed to transport PIH materials. (73 *FR* 17817). On January 13, 2009, PHMSA issued a final rule establishing the "Interim HM-246 Standard." (74 *FR* 1769). The Interim HM-246 Standard

effectively adopted AAR's CPC-1187 tank car specification for the transportation of PIH materials until further research could be completed on enhanced tank car specifications.

In the NPRM for HM-246, PHMSA considered adopting a phase-out of tank cars that did not meet the proposed standard. However, in the HM-246 final rule, PHMSA decided not to adopt a phase-out schedule for legacy cars stating, “[a]lthough we continue to believe that an accelerated phase out of these cars is justified, we recognize the voluntary efforts already underway by many fleet owners to phase out these cars, in many cases on schedules more aggressive than the five-year deadline proposed in the NPRM.” (74 *FR* at 1777-1778). After PHMSA published the HM-246 final rule adopting an interim tank car standard, AAR suspended CPC-1187 until a new tank car standard could be finalized and suspended the December 2018 retirement deadline for non-compliant tank cars.

As discussed in Section II.13, “Finalization of the HM-246 Tank Car Standard,” above, research conducted under the ATCCRP has since demonstrated that the HM-246 interim tank car design provides significant improvements in survivability and in their view, no other design would provide significantly greater level of improvement. However, despite initial indications in 2009 that voluntary efforts would result in an accelerated phase-out of those tank cars in PIH service that failed to comply with the HM-246 interim standard, the industry had not adopted a voluntary phase-out schedule as of December 2016 that would eliminate less safe tank cars from PIH service.

On December 16, 2016, AAR submitted a petition (P-1692) requesting that PHMSA adopt a six-year phase-out for PIH rail tank cars that do not meet the interim

HM-246 specification standard as implemented in the HM-246 final rule published on January 13, 2009. AAR argued that collaborative research undertaken by industry and government partners (through ATCCRP) over the last seven years has confirmed that HM-246 specification cars have the highest accident survivability rate over other designs and are the most feasible technology to transport PIH materials.

On April 7, 2017, before PHMSA acted on P-1692, AAR adopted CPC-1325, which implemented a phase-out by July 1, 2023 of any tank car in PIH service that does not comply with the HM-246 interim standard. Prior to AAR's adoption of CPC-1325, the Fertilizer Institute commented to the petition for rulemaking docket (P-1692)³ that it opposed AAR's implementation of the July 1, 2023, phase-out schedule arguing, among other things, that DOT has sole authority over hazardous materials packaging and that AAR's adoption of the phase-out schedule was done without performing a cost-benefit analysis. As a result, the Fertilizer Institute asserted that the phase-out was being implemented without a full understanding of the extent of its potential costs or benefits. Similar comments were relayed to PHMSA by a group of shipper associations during a January 13, 2017 meeting.⁴ AAR met with PHMSA and FRA on August 1, 2017, during which AAR suggested its phase-out schedule did not conflict with DOT regulations and that the phase-out schedule was intended to remove an older, less-safe car design from PIH service.⁵ PHMSA sees no need to take a position on these specific arguments, as they are rendered moot by subsequent actions. However, it is with a view towards this

³ Docket No. PHMSA-2016-0165, at www.regulations.gov.

⁴ Attendees included representatives from the Fertilizer Institute, American Chemistry Council, the Chlorine Institute, and the American Petroleum Institute.
<https://www.regulations.gov/document?D=PHMSA-2016-0165-0007>.

⁵ <https://www.regulations.gov/document?D=PHMSA-2016-0165-0011>.

history that PHMSA notified AAR on December 7, 2017, that it was accepting P-1692 and would conduct a “safety and policy review that will aid in determining whether the HMR should mandate a phase-out period and, if so, what period would ensure safety and protect the public interest.”⁶

On July 27, 2018, AAR revised CPC-1325 and re-issued it as CPC-1336, extending the phase-out schedule for non-HM-246 compliant tank cars from six (July 1, 2023) to ten years (December 31, 2027). On August 15, 2018, the railroads (represented by AAR) and a group of PIH material shippers (represented by ACC, the Chlorine Institute, and the Fertilizer Institute) submitted a joint comment to P-1692 proposing a phase-out date of December 31, 2027, for all non-HM-246 specification rail tank cars. The December 31, 2027, phase-out date would be in lieu of the six-year timeline requested in AAR’s original petition. The joint commenters met with PHMSA on September 6, 2018, and urged PHMSA to act quickly in completing a rulemaking that would adopt the petition’s proposed 10-year phase-out timeline.⁷ The joint commenters contend that codifying the phase-out in the HMR would improve safety and increase market certainty.

PHMSA believes the phase-out of these legacy rail tank cars would have a positive impact on safety due to their replacement with more robust tanks cars used for the transportation of PIH materials and that regulatory certainty could foster market certainty. PHMSA proposes to respond to P-1692 by codifying the 10-year phase-out schedule in the HMR; however, the phase-out is expected to go into effect under railroad

⁶ <https://www.regulations.gov/document?D=PHMSA-2016-0165-0012>.

⁷ <https://www.regulations.gov/document?D=PHMSA-2016-0165-0014>.

interchange rules regardless of whether PHMSA adopts this date into regulation. As a result, there is no cost associated with PHMSA promulgating this date as a regulatory deadline for the phase-out.

As such, PHMSA believes there is merit in proposing the phasing-out of all non-HM-246 rail tank cars for use in the transportation of PIH materials. In this NPRM, PHMSA proposes to revise § 173.31 to phase-out all non-HM-246 rail tank cars for the transportation of PIH materials by December 31, 2027. PHMSA encourages stakeholder comments assessing the potential impacts of the proposed phase-out and whether the proposed phase-out period in this NPRM is an appropriate timeframe.

15. Allow Non-RCRA Waste to Use Lab Pack Exception

In its petition (P-1695), Veolia requests that PHMSA amend § 171.8 by adding a definition of “waste material.” The purpose of this petition is to allow for all waste material, whether or not it meets the definition of a hazardous waste according to the EPA’s RCRA, to be managed in accordance with the lab packs exception and associated paragraphs in § 173.12. Currently, lab packs in § 173.12 provide relief for “waste materials” that are being offered for disposal and recovery; this has been clarified by PHMSA to only apply to “hazardous wastes” as defined by the EPA. Veolia believes this does not reflect the intention of the regulation, and that adding a definition would resolve the issue.

PHMSA’s technical review of the petition supports the petitioner’s interpretation. When PHMSA codified § 173.12, the intention was to apply it to all waste materials, and

was not specific to “hazardous wastes.” PHMSA believes that clarifying this intention to include all waste would not lead to a reduction in safety. There are no costs that are expected based on the adoption of this petition. The lab pack exception offers flexibility for transporting waste materials, but does not require changes to business operations or changes to how the waste material is ultimately handled. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in this proposal. In this NPRM, PHMSA is proposing to allow waste materials, irrespective of whether they meet the definition of a EPA/RCRA hazardous waste to be shipped under § 173.12 by adopting a definition of waste material.

16. Incorporation of ASME Code Sections II, VIII, and IX

In its petition (P-1700), Trinity Containers requests that PHMSA IBR the 2017 version of the ASME BPVC, Sections II (Parts A and B, C and D), VIII (Division 1), and IX into the HMR. The ASME BPVC is a standard for the design and construction of boilers and pressure vessels. The petitioner indicates that if changes are not made, ASME Code certificate holders will be in violation of the HMR for manufacturing cargo tanks, non-specification tanks, and implements of husbandry to the ASME Code referenced in § 171.7.

PHMSA’s technical review of this petition found that for certificate holders to remain in compliance with ASME, they must follow this latest edition of the ASME Code. Currently, the HMR IBRs the 2015 edition which is already causing issues with

compliance if manufacturers or repair facilities choose to use the latest edition of the ASME Code. Adopting the latest version of the ASME Code would ensure that the HMR remains consistent with the best practices used by the industry. A review of PHMSA's Civil Penalty Action Reports between 2015 and 2016 revealed no citations that were like the example provided by the petitioner. This suggests that these types of citations are infrequent, and that the cost-savings associated with this petition would be modest. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in this proposal. Note that ASME Code Section V (nondestructive examination) is incorporated by reference in the HMR but that ASME Code Section II, Parts C and D are not. In this NPRM, PHMSA is proposing to IBR the latest version of the ASME BPVC Sections II (Parts A and B), V, VIII (Division 1), and IX.

17. Import of Foreign Pi-Marked Cylinders

In its petition (P-1701), CGA requests that PHMSA modify §§ 171.23, 173.302, and 173.304 to permit the transportation of filled pi-marked foreign pressure receptacles that comply with applicable ADR requirements. Pi-marked pressure receptacles are currently allowed to be imported through special permits and approvals. P-1701 requests authorization for import, immediate storage, transport to point of use, discharge, and export, as well as the import of empty pi-marked foreign pressure receptacles for filling, immediate storage, and export. In an addendum to the P-1701 petition, Entegris requests

additional revisions to §§ 171.23(a) and 173.302(a)(2) to explicitly ensure that the proposed rulemaking is applicable to adsorbed gas packages. The changes to § 171.23(a)(3) requested by Entegris are intended to allow for domestic sourcing as well as import of empty pi-marked pressure receptacles for filling and export.

PHMSA's technical review did not find any evidence to suggest that there would be any changes with respect to risk and safety resulting from this proposed regulatory change. The shipping of pi-marked cylinders has been allowed for many years through special permits. There is limited available market data on the current export of pi-marked cylinders. The information provided by the petitioner suggests that adopting the proposed amendment would not result in a change to the number of pi-marked cylinders that are transported or the risk profile of the cylinder transportation. Cost savings are expected to be minimal, resulting primarily from the potential time savings for industry and governments due to the elimination of the need for a special permit or approval. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in this proposal. In this NPRM, PHMSA is proposing to modify §§ 171.23, 173.302, and 173.304 to permit the import of filled pi-marked foreign pressure receptacles for storage incidental to movement, transport to point of use, discharge, and export. PHMSA is also proposing to permit the transportation of pi-marked foreign pressure receptacles for export, including filling and storage incident to movement. In addition, PHMSA is proposing to revise §§ 171.23(a) and 173.302(a)(2) to explicitly ensure that the proposed authorization for pi-marked

cylinders is applicable to adsorbed gas packages. Finally, to align with similar ADR provisions, and increase shipper and carrier awareness of the requirements for pi-marked cylinders, we are proposing to require a notation on the shipping paper following the basic description of the hazardous material certifying compliance with the pi-marked cylinder requirements. PHMSA is also proposing to IBR the ADR and European Union (EU) “Directive 2010/35/EU of the European Parliament and of the Council” into § 171.7 of the HMR.

18. Placement of the Word “Stabilized” in Shipping Description

In its petition (P-1706), Evonik requested that PHMSA clarify how the word “stabilized” should appear when providing the shipping description for a hazardous material. There is currently disharmony between the IMDG Code and the HMR that causes confusion with respect to materials that required the word “stabilized” to appear in the proper shipping name. The HMR does not allow the word “stabilized” to appear as part of the proper shipping name. The IMDG Code requires it in certain instances. The petitioner claims that this causes needless discrepancies for international shipments under the IMDG Code.

PHMSA’s technical review found that hazardous materials that have some instability but are not specifically identified or classified as self-reactive substances or organic peroxides currently cannot be shipped in compliance with both the HMR and the IMDG Code. This disharmony causes problems with transportation documents.

Amending the HMR to allow the use of the word “stabilized” in the proper shipping name may require manufacturers and shippers to cover labor costs related to training and ensuring compliance with this new requirement. To the extent that these costs exist, they are expected to be negligible. This is because affected entities that engage in international commerce are expected to already be aware of the requirement, and would simply need to know that international and domestic shipments of stabilized materials can be treated the same on the shipping paper. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in this proposal. In this NPRM, PHMSA is proposing to revise § 172.101(c) to clarify that the word “stabilized” can be added as part of the proper shipping name.

19. Incorporation by Reference of an IME Standard

In its petition (P-1710), IME requested that PHMSA incorporate by reference the IME/AESC JPG Standard, also called the “*Guide to Obtaining DOT Approval of Jet Perforating Guns using AESC/IME Perforating Gun Specifications*, Version 02, dated September 1, 2017. IME notes that JPGs use shaped explosive charges to produce a high-pressure jet that penetrates the liner or casing of a wellbore in order to enhance production of oil and gas wells. Testing of early JPG systems in 2007 suggested the potential for JPGs to improve flow performance by 35 percent. In addition to the IBR, IME proposes that PHMSA include a new § 173.67 to outline exceptions for Division 1.1 JPGs subject to this new IBR material.

The IME JPG Standard has been used since 2008 by PHMSA to aid in the review of EX approval applications for articles meeting the JPG Standard templates as either 1.1D or 1.4D. The standard includes parameters for 13 JPG designs and requires that the individual energetic components (e.g., detonation cord, shaped charges, explosive transfer device, etc.) be individually approved. IBR of this standard into the HMR would help to ensure the safe and efficient transportation of JPGs, and provides adequate safety protocols for the transportation of JPGs.

The economic analysis suggests potential annualized cost savings of approximately \$360,000 for manufacturers of JPGs compliant with the IME/AESC Standard. Additional cost savings are expected for both manufacturers and PHMSA due to reduced labor requirements for processing applications for EX approvals. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

Therefore, PHMSA believes there is merit in this proposal. In this NPRM, PHMSA is proposing to incorporate this standard into § 171.7 of the HMR and include a new § 173.67 to outline exceptions for Division 1.1 JPGs subject to this new IBR material.

20. Incorporation by Reference of an APA Standard

In its petition (P-1711), the APA requested PHMSA update references in the HMR to incorporate the new version of APA Standard 87-1, “*Standard for Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics*,” which is currently incorporated by reference in § 171.7(f)(1) of the HMR. The APA

states that this 2001 edition of the standard needs to be updated, because of advances in the fireworks industry over the last 15 years. For consumer fireworks, new devices have been developed including combination devices, and more devices now contain multiple tubes and combinations of effects that were previously limited to single tubes. The petitioner elaborates that these new products do not fit into the existing classification system under the current standard.

The National Fireworks Association (NFA) submitted a letter in opposition to this petition. The NFA is a domestic fireworks trade organization with 1,200 members. In the letter, NFA states that proposed changes have a substantial impact on the fireworks industry and, in particular, small businesses. In the letter of opposition, NFA states that the proposed action “imposes new restrictions, prohibitions, and specifications that do not exist under the current standard.” In a letter to its members, NFA provides an explanation of its opposition letter. NFA states that although the revised 87-1A standard has “many good updates, including new design categories that would make EX approvals easier for some items,” the updated standard also includes restrictions that are inconsistent with industry practices.

PHMSA is choosing to propose to IBR the new APA standard despite NFA’s opposition to the petition. NFA objected to PHMSA accepting the APA petition on the assertion that the APA petition lacked the information described in § 106.100(b) of the HMR. This section only states that PHMSA may require more information to evaluate a petition for rulemaking; it is not required. In the case of P-1711, PHMSA determined that additional information was not necessary to accept the petition for rulemaking. The

revised APA 87-1 is expected to provide clarity to the fireworks industry, while maintaining the composition limits developed by PHMSA for classification that are needed to ensure the safe transportation of fireworks. Furthermore, PHMSA's decision to propose IBR the revised APA standards was informed by its review of the explicit requirements for consumer fireworks in APA 87-1A, display fireworks in APA 87-1B, and professional fireworks (classed as articles pyrotechnics) in APA 87-1C. These standards add numerous new devices, expand the permitted chemical list, and focus solely on hazard classification for transportation. However, PHMSA will consider comments on whether we should move forward with incorporating this standard in a final rule. PHMSA estimates that adoption of this petition would provide an annualized cost savings of approximately \$270,000 to industry, through expanding the approval process to reduce testing requirements for theatrical pyrotechnics. A more detailed discussion of this economic analysis can be found in the accompanying PRIA.

PHMSA believes there is merit in this proposal. Therefore, PHMSA is proposing to incorporate this updated standard into § 171.7 of the HMR. However, PHMSA is seeking comments on both what is proposed in the APA petition and comments submitted by the NFA on the merits of this proposal. All documents related to this petition can be found in the petition docket at

<https://www.regulations.gov/docket?D=PHMSA-2018-0019>

III. Section-by-Section

Below is a section-by-section description of the changes being proposed in this NPRM.

A. Appendix A to Subpart D, Part 107

Appendix A to Subpart D, of Part 107 sets forth the guidelines PHMSA uses (as of October 2, 2013) in making initial baseline determinations for civil penalties. In this NPRM, PHMSA is proposing to update the references to the APA documents to reflect the proposed new versions of the 87-1 Standard.

B. Section 107.402

Section 107.402 outlines how to submit an application for designation as a certification agency. PHMSA is proposing to update a reference to the APA documents to reflect the proposed new version of the 87-1 Standard in § 107.402(d).

C. Section 171.7

Section 171.7 lists all standards incorporated by reference into the HMR that are not specifically set forth in the regulations. In this NPRM, PHMSA is proposing to IBR the following publications by APA, ASME, CGA, and IME:

1. *European Agreement concerning the International Carriage of Dangerous Goods by Road*, 2017, into § 171.23. The ADR outlines the European regulations concerning the international carriage of dangerous goods by road within the EU, and this publication presents the European Agreement, the Protocol Signatures,

the annexes, and the amendments. The ADR can be found at

https://www.unece.org/trans/danger/publi/adr/adr_e.html.

2. *Directive 2010/35/EU of the European Parliament and of the council*, June 16, 2010, into § 171.23. The aim of Directive 2010/35/EU of the European Parliament and of the Council on Transportable Pressure Equipment (2010 TPED) is to promote the free movement of transportable pressure equipment (TPE) within the European Community (EC). This directive provides for a legal structure whereby TPE can be manufactured, sold, and used throughout the EU. A copy of this directive can be found at <https://eur-lex.europa.eu/eli/dir/2010/35/oj>.
3. CGA C-11, *Recommended Practices for Inspection of Compressed Gas Cylinders at Time of Manufacture*, 2013, Fifth Edition, into § 178.35. The purpose of this publication is to promote safety by outlining inspection requirements of DOT and UN pressure vessels as interpreted and practiced by manufacturers and inspectors. A read-only version of this publication is available for review at https://portal.cganet.com/IBR_Review.aspx.
4. CGA C-6.1, *Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders*, 2002, Fourth Edition, into §§ 180.205 and 180.209. This publication has been prepared as a guide for the visual inspection of aluminum compressed gas cylinders with service pressures of 1800 psig or greater. The publication is general in nature and does not cover all circumstances

for each individual cylinder type or lading. A read-only version of this publication is available for review at https://portal.cganet.com/IBR_Review.aspx.

5. CGA C-6.3, *Guidelines for Visual Inspection and Requalification of Low Pressure Aluminum Compressed Gas Cylinders*, 2013, Third Edition, into §§ 180.205 and 180.209. This publication has been prepared as a guide for the periodic inspection of aluminum alloy compressed gas cylinders with service pressures of 500 psi or less. This publication is general in nature and will not cover all circumstances for each individual cylinder type or lading. A read-only version of this publication is available for review at https://portal.cganet.com/IBR_Review.aspx.
6. CGA S-7, *Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders*, 2013, Fifth Edition, into § 173.301. This method is applicable to the determination of the PRD to use with compressed gas mixtures in cylinders. This method is limited to those compressed gas mixtures with known flammability, toxicity, state, and corrosively. A read-only version of this publication is available for review at https://portal.cganet.com/IBR_Review.aspx.
7. ASME *Boiler and Pressure Vessel Code (ASME Code)*, 2017 Edition, July 1, 2017 (as follows), into §§ 172.102; 173.3; 173.5b; 173.24b; 173.306; 173.315; 173.318; 173.420; 178.255-1; 178.255-2; 178.255-14; 178.255-15; 178.273; 178.274; 178.276; 178.277; 178.320; 178.337-1; 178.337-2; 178.337-3; 178.337-4; 178.337-6; 178.337-16; 178.337-18; 178.338-1; 178.338-2; 178.338-3; 178.338-4; 178.338-5; 178.338-6; 178.338-13; 178.338-16;

178.338-18; 178.338-19; 178.345-1; 178.345-2; 178.345-3; 178.345-4;
 178.345-7; 178.345-14; 178.345-15; 178.346-1; 178.347-1; 178.348-1;
 179.400-3; 180.407. The ASME BPVC is a standard that regulates the design and construction of boilers and pressure vessels. The document is written and maintained by volunteers chosen for their technical expertise, and ASME works as an accreditation body and entitles independent third parties such as verification, testing, and certification agencies to inspect and ensure compliance to the BPVC. A read-only version of this publication is available for review at <http://go.asme.org/PHMSA-ASME>.8. IME/AESC JPG Standard, *Guide to Obtaining DOT Approval of Jet Perforating Guns using AESC/IME Perforating Gun Specifications*, Ver. 02, dated September 1, 2017, into § 173.67. The AESC/IME JPG Standard was developed in 2008 by IME, AESC, and PHMSA to provide an efficient and economical mechanism to obtain explosives approvals of jet perforating guns in compliance with the HMR. Applications that are prepared and submitted using the standard are processed by PHMSA with minimal delay and without the need for expensive and time-consuming testing. A free downloadable copy of this publication can be found at [https://www.ime.org/uploads/public/PHMSA/UpdateJPGStandard\(2018.06.12\).pdf](https://www.ime.org/uploads/public/PHMSA/UpdateJPGStandard(2018.06.12).pdf).

9. American Pyrotechnics Association (APA) Standards:
87-1A Standard for the Construction, Classification, Approval and Transportation of Consumer Fireworks, January 1, 2018 version into

§ 107.402(d), § 173.59, §173.64, § 173.65, and Appendix A to Subpart D of Part 107 (Guidelines for Civil Penalties),

87-1B Standard for the Construction, Classification, Approval, and Transportation of Display Fireworks, January 1, 2018 version into § 173.64 and Appendix A to Subpart D of Part 107 (Guidelines for Civil Penalties).

87-1C Standard for the Construction, Classification, Approval, and Transportation of Entertainment Industry and Technical (EI&T) Pyrotechnics, January 1, 2018 version into § 173.64 and Appendix A to Subpart D of Part 107 (Guidelines for Civil Penalties). APA Standard 87-1A, B, and C is a consensus standard in which fireworks classifications are assigned based upon the weight and type of chemical composition contained for each specific type of device, including specific permissible and restricted chemicals. A copy of this standard can be found in this rulemaking docket at

<https://www.regulations.gov/docket?D=PHMSA-2017-0120>.

D. Section 171.8

Section 171.8 defines terms generally used throughout the HMR that have broad or multi-modal applicability. PHMSA is proposing to add a definition for “waste material” to allow wastes that do not meet the EPA/RCRA definition of hazardous waste to be managed in accordance with the lab pack exception and associated paragraphs in § 173.12.

E. Section 171.23

Section 171.23 covers the requirements for specific materials and packagings transported under the ICAO Technical Instructions, IMDG Code, Transport Canada TDG Regulations, or the IAEA Regulations. PHMSA is proposing to revise § 171.23(a)(3) to allow for the use of pressure vessels and pressure receptacles that are marked with a pi mark in accordance with the European Directive 2010/35/EU on transportable pressure equipment (TPED) and that comply with the requirements of Packing Instruction P200, P208 and 6.2.2 of ADR concerning PRD use, test period, filling ratios, test pressure, maximum working pressure, and material compatibility for the lading contained or gas being filled. This proposal would allow for intermediate storage, transport to point of use, discharge, and export of pi-marked cylinder.

F. Section 172.101

The HMT is contained in § 172.101. The HMT lists alphabetically, by proper shipping name, those materials that have been designated hazardous materials for the purpose of transportation. It provides information used on shipping papers, package marking, and labeling, as well as other pertinent shipping information for hazardous materials. In this NPRM, PHMSA is proposing to amend the HMT in the following ways.

PHMSA is proposing to remove reference to SP 103 from Column (7) of the HMT for the following four explosive entries “UN0361, —Detonator assemblies, non-electric, for blasting”; “UN0365, —Detonators for ammunition”; “UN0255, —Detonators, electric, for blasting”; and “UN0267, —Detonators, non-electric, for

blasting.” PHMSA is also proposing to remove the word “None” from Column (8A) for the entry “UN0503, Safety Devices, pyrotechnic” and replacing it with a reference to § 173.166 (“166”). Finally, PHMSA is also proposing to revise 114 entries to harmonize the limited quantity exceptions in Column (8A) with the ICAO Technical Instructions and the UN Model Regulations.

G. Section 172.102

Section 172.102 lists special provisions applicable to the transportation of specific hazardous materials. Special provisions contain packaging requirements, prohibitions, and exceptions applicable to particular quantities or forms of hazardous materials. Consistent with the § 172.101 Column (7) revisions to “UN0361, —Detonator assemblies, non-electric, for blasting”; “UN0365, —Detonators for ammunition”; “UN0255, —Detonators, electric, for blasting”; and “UN0267, —Detonators, non-electric, for blasting,” in this NPRM, PHMSA is proposing to remove SP 103 as it would no longer apply to any HMT entry.

H. Section 172.302

Section 172.302 describes the general marking requirements for bulk packagings. In this NPRM, PHMSA is proposing to revise the minimum size of the marking requirement on portable tanks in § 172.302(b)(2). This revision would require a minimum marking of 12 mm (0.47 inch) in height. The minimum size requirement would apply to portable tanks with capacities less than 3,785 L (1,000 gallons).

I. Section 173.5b

Section 173.5b authorizes the transportation by highway of residual amounts of Division 2.2 refrigerant gases or anhydrous ammonia contained in non-specification pressure vessels that are components of refrigeration systems. PHMSA is proposing to remove paragraph (b)(6) to indefinitely allow the use of refrigeration systems placed into service prior to June 1, 1991 under specified conditions.

J. Section 173.28

Section 173.28 outlines the requirements for the reuse, reconditioning and re-manufacture of packagings. PHMSA is proposing to modify language in § 173.28(c)(1)(i) to clarify requirements for reconditioning metal drums. PHMSA is proposing to revise § 173.28(c)(1)(i) to read: “Cleaning to base material of construction, with all former contents and internal and external corrosion removed, and any external coatings and labels sufficiently substantially removed to the extent that tightly adherent paint, mill scale, and rust remain on no more than 10 percent of each unit’s surface area.”

K. Section 173.31

Section 173.31 outlines the requirements for shipping hazardous materials in tank cars. In this NPRM, PHMSA is proposing to prohibit the use of tank cars that were manufactured using non-normalized steel for head or shell construction for the transportation of PIH materials after December 31, 2020. PHMSA is also proposing the

phase-out of all non-HM-246 compliant tank cars for the transportation of PIH materials by December 31, 2027.

L. Section 173.56

Section 173.56 outlines the definitions and procedures for the classification and approval of a new explosive. PHMSA is proposing to add a reference to a new paragraph in § 173.67, which would apply to exceptions for Division 1.1 JPGs.

M. Section 173.59

Section 173.59 outlines the description of terms for explosives. PHMSA is proposing to update a reference to the APA documents in the definition for consumer firework.

N. Section 173.64

Section 173.64 outlines the exceptions for Division 1.3 and 1.4 fireworks. PHMSA is proposing to update a reference to the APA documents in § 173.64(a)(1) and (3).

O. Section 173.65

Section 173.65 outlines the exceptions for Division 1.4G consumer fireworks. PHMSA is proposing to update a reference to the APA documents in § 173.65(a)(1), (a)(3)(i), and (a)(4)(iv).

P. Section 173.67

PHMSA is proposing to add a new § 173.67 to outline exceptions for Division 1.1 JPGs.

Q. Section 173.151

Section 173.151 outlines exceptions for Class 4 materials. PHMSA is proposing to edit the limited quantities provisions in this section to present limited quantities in appropriate SI units in liters in addition to kilograms.

R. Section 173.244

Section 173.244 outlines the requirements for bulk packaging for certain pyrophoric liquids, dangerous when wet (Division 4.3) materials, and poisonous liquids with inhalation hazards (Division 6.1). PHMSA is proposing to modify the list of authorized tank car specifications in the table of PIH materials (§ 173.244(a)(2)) by replacing the last specification delimiter “T” with “W” to reflect the change of the interim tank car standard to a permanent standard.

S. Section 173.302

Section 173.302 outlines the requirements for the filling of cylinders with nonliquefied (permanent) compressed gases or adsorbed gases. In this NPRM, PHMSA is proposing to revise § 173.302(a)(1) to refer to exceptions in § 171.23(a)(3) for the

importation of pi-marked cylinders. PHMSA is also proposing to revise § 173.302(a)(2) to allow adsorbed gases the exceptions provided in § 171.23(a)(3).

T. Section 173.304

Section 173.304 outlines the requirements for the filling of cylinders with liquefied compressed gases. In this NPRM, PHMSA is proposing to revise § 173.304(a) to refer to exceptions in § 171.23(a)(3) for the importation of pi-marked cylinders.

U. Section 173.308

Section 173.308 outlines the requirements for the shipment of lighters. In this NPRM, PHMSA is proposing to delete § 173.308(d)(3), which requires a closed transport vehicle or closed freight container being transported by vessel to contain the marking, “WARNING – MAY CONTAIN EXPLOSIVE MIXTURES WITH AIR – KEEP IGNITION SOURCES AWAY WHEN OPENING.”

V. Section 173.314

Section 173.314 outlines the requirements for transporting compressed gases in tank cars and multi-unit tank cars. PHMSA is proposing to modify the table in § 173.314(c), which lists the authorized tank car specifications for specific compressed gases. The changes replace the last specification delimiter “I” with “W” to reflect the change of the interim HM-246 tank car specification standard for PIH materials to a permanent standard.

W. Section 178.35

Section 178.35 prescribes the manufacturing and testing specifications for cylinders used for the transportation of hazardous materials in commerce. PHMSA is proposing to modify § 178.35(b) and (c) to clarify inspection requirements as stipulated in CGA C-11.

X. Section 178.521

Section 178.521 prescribes the requirements for paper bags used as non-bulk packagings for hazardous materials. In this NPRM, PHMSA is proposing to revise § 178.521(b)(4) to allow for a weight tolerance of ± 10 percent from the nominal basis weight reported in the initial design qualification test report instead of ± 5 percent.

Y. Section 179.22

Section 179.22 specifies additional marking requirements for tank cars. In this NPRM, PHMSA is proposing to modify § 179.22(e) to replace the letter “T” with the letter “W” to facilitate making the interim HM-246 tank car specification standards permanent for the transportation of PIH materials by rail.

Z. Section 180.417

Section 180.417 prescribes the reporting and record retention requirements pertaining to cargo tanks. Currently § 180.417(a)(3)(i) and § 180.417(a)(3)(ii) allow the

use of alternative reports when a manufacturer's certificate and related papers are not available for DOT specification cargo tanks that were manufactured before September 1, 1995. PHMSA is proposing to remove the provision that limits alternative reports to those DOT specification cargo tanks "manufactured before September 1, 1995" from § 180.417(a)(3).

IV. Regulatory Analyses and Notices

A. *Statutory/Legal Authority for This Rulemaking*

This rulemaking is published under the authority of Federal Hazardous Materials Transportation Law (Federal hazmat law; 49 U.S.C. 5101 *et seq.*), which authorizes the Secretary of Transportation to "prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce." The Secretary has delegated the authority granted in the Federal Hazardous Materials Law to the PHMSA Administrator at 49 CFR 1.97. This rulemaking proposes to amend several sections of the HMR in response to 24 petitions for rulemaking received from the regulated community.

B. *Executive Order 12866 and DOT Regulatory Policies and Procedures*

Background

In this NPRM, PHMSA is responding to 24 petitions that have been submitted by the public in accordance with the Administrative Procedure Act (5 U.S.C. 553(e)) and PHMSA's rulemaking procedure regulations (49 CFR § 106.95). Overall, this

rulemaking maintains the continued safe transportation of hazardous materials while producing a net cost savings. PHMSA's findings are summarized here and described in further detail in the preliminary Regulatory Impact Analysis (PRIA), which can be found in the regulatory docket (Docket ID: PHMSA-2017-0120) at www.regulations.gov.

Summary of Findings

PHMSA estimates a present value of quantified net cost savings of approximately \$1.74 million annualized at a 7 percent discount rate. These estimates do not include non-monetized and qualitative cost/cost savings discussed in the PRIA.

PHMSA's cost/cost savings analysis relies on the monetization of impacts for four petitions included in this rulemaking. All of these petitions have annualized cost savings. The following table presents a summary of the four petitions that would have monetized impacts upon codification and contribute to PHMSA's estimation of quantified net cost savings.

Table 1: Summary of Cost/Cost Savings of Petitions for Regulatory Reform

Monetized Costs / (Cost Savings) by Petition			
Petition #	Petition Topic	Total Cost Savings (Millions)	Annualized Cost Savings (Millions)
P-1677	<u>Mobile Refrigerator Units</u>	\$14.40	\$1.00
P-1688	<u>Weight Tolerances for Paper Shipping Sacks</u>	\$1.60	\$0.11
P-1710	<u>Incorporation of an Institute of Makers of Explosives (IME) Standard</u>	\$5.10	\$0.36
P-1711	<u>Incorporation of American Pyrotechnic Association Standard</u>	\$3.90	\$0.27
Total		\$25.00	\$1.74

In addition to these four items, PHMSA described an additional 19 items that are deregulatory in nature but lack of monetization of their cost savings impacts. While information gaps prevent quantification of cost savings for these items, PHMSA believes that they provide relief from unnecessary requirements or provide additional flexibility, and therefore should be considered deregulatory in nature.

Conclusion

In conclusion, this NPRM is not considered a significant regulatory action within the meaning of Executive Order 12866 (EO 12866) and DOT policies and procedures. *See* 44 FR 11034 (Feb. 26, 1979). PHMSA made this determination by finding that the economic effects of this regulatory action would not have an effect on the economy that exceeds the \$100 million annual threshold defined by EO 12866 and that the regulatory action is not otherwise significant. PHMSA estimates a present value of quantified net cost savings of approximately \$25 million over a perpetual time horizon and \$1.74 million annualized at a 7 percent discount rate. Please see the PRIA in the regulatory docket for additional detail and a description of PHMSA's methods and calculations.

C. *Executive Order 13771*

This proposed rule is expected to be an EO 13771 deregulatory action. Details on the estimated cost savings of this proposed rule can be found in the rule's economic analysis.

D. *Executive Order 13132*

This rulemaking was analyzed in accordance with the principles and criteria contained in Executive Order 13132 (“Federalism”) and the presidential memorandum (“Preemption”) that was published in the *Federal Register* on May 22, 2009 [74 FR 24693]. Executive Order 13132 requires agencies to assure meaningful and timely input by State and local officials in the development of regulatory policies that may have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” This rulemaking may preempt State, local, and Tribal requirements, but does not propose any regulation that has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

The Federal hazmat law (49 U.S.C. 5101-5128) contains an express preemption provision [49 U.S.C. 5125(b)] that preempts State, local, and Indian tribal requirements on the following subjects:

- (1) The designation, description, and classification of hazardous materials;
- (2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;

(3) The preparation, execution, and use of shipping documents related to hazardous materials and requirements related to the number, contents, and placement of those documents;

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; and

(5) The design, manufacture, fabrication, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This proposed rule addresses covered subject items above and preempts State, local, and Indian tribe requirements not meeting the “substantively the same” standard. This proposed rule is necessary to provide cost savings and regulatory flexibility to the regulated community. This rulemaking proposes to address 24 petitions for rulemaking submitted by the regulated community. PHMSA invites those with an interest in the issues presented in this NPRM to comment on the effect that the adoption of specific proposals may have on State or local governments.

E. *Executive Order 13175*

This rulemaking was analyzed in accordance with the principles and criteria contained in Executive Order 13175 (“Consultation and Coordination with Indian Tribal Governments”). Executive Order 13175 requires agencies to assure meaningful and timely input from Indian tribal government representatives in the development of rules that significantly or uniquely affect Tribal communities by imposing “substantial direct

compliance costs” or “substantial direct effects” on such communities or the relationship and distribution of power between the Federal Government and Indian tribes. PHMSA does not view this rulemaking as having substantial tribal implications. Therefore, the funding and consultation requirements of Executive Order 13175 do not apply.

However, we invite Indian tribal governments to provide comments on the costs and effects that this or a future rulemaking could potentially have on Tribal communities.

F. Regulatory Flexibility Act, Executive Order 13272, and DOT Procedures and Policies

The Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Flexibility Fairness Act of 1996, requires Federal regulatory agencies to prepare an Interim Regulatory Flexibility Analysis (IRFA) for any NPRM subject to notice-and-comment rulemaking under the Administrative Procedure Act unless the agency head certifies that the rule would not have a significant economic impact on a substantial number of small entities. While PHMSA expects that this proposed rule would facilitate new technologies or other changes that provide safety equivalence at lower cost, streamline or reduce recordkeeping and other paperwork and reporting requirements, and address other changes to reduce the regulatory burden of the hazardous materials regulations (HMR), PHMSA has limited data on how the proposed rule would impact small entities. Therefore, PHMSA prepared an IRFA which is available in the docket for the rulemaking.

G. *Paperwork Reduction Act*

This NPRM does not impose new information collection requirements. Depending on the results of our request for comments to this NPRM, there may be a decrease in the annual burden and costs under OMB-proposed changes to incorporate provisions contained in certain widely used or longstanding special permits with an established safety record.

PHMSA specifically requests comments on the information collection and recordkeeping burdens associated with developing, implementing, and maintaining these requirements for approval under this NPRM.

Address written comments to the Dockets Unit as identified in the ADDRESSES section of this NPRM. We must receive comments regarding information collection burdens prior to the close of the comment period identified in the DATES section of this NPRM.

H. *Regulation Identifier Number (RIN)*

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulatory and Deregulatory Actions (“Unified Agenda”). The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

I. *Unfunded Mandates Reform Act*

This proposed rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of \$160.8 million or more, adjusted for inflation, to either State, local, or tribal governments, in the aggregate, or to the private sector in any one year, and is the least burdensome alternative that achieves the objective of the rule.

J. *Environmental Assessment*

The National Environmental Policy Act, 42 U.S.C. 4321–4375, requires Federal agencies to analyze proposed actions to determine whether the action would have a significant impact on the human environment. The Council on Environmental Quality (CEQ) regulations require Federal agencies to conduct an environmental review considering: (1) the need for the proposed action; (2) alternatives to the proposed action; (3) probable environmental impacts of the proposed action and alternatives; and (4) the agencies and persons consulted during the consideration process.

Need for the Proposed Action

In response to petitions for rulemaking submitted by the regulated community, PHMSA proposes to amend the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180) to update, clarify, or provide relief from miscellaneous regulatory requirements. Specifically, PHMSA is proposing amendments that include, but are not limited to, the following: Incorporating by Reference (IBR) multiple publications from both the CGA, IME, the American Society of Mechanical Engineers (ASME) and the APA; Phase-out of

non-normalized steel for transportation of PIH materials, harmonizing the limited quantity exceptions for more than 100 entries for corrosive materials in the HMT, allowing for the continued use of Portable and Mobile Refrigerator Systems placed into service prior to 1991 that are rated to a minimum service pressure of 250 pounds per square inch (psi), revising the basis weight tolerance for paper shipping sacks, and allowing non-EPA waste to be managed in accordance with the Lab Pack exception.

These amendments are intended to promote safety and provide clarity and regulatory relief. The proposed changes were identified in response to petitions from stakeholders affected by the HMR. These proposed minor changes would clarify the HMR and enhance safety, while offering some net economic benefits.

This action is necessary to: (1) fulfill our statutory directive to promote transportation safety; (2) fulfill our statutory directive under the Administrative Procedure Act that requires Federal agencies to give interested persons the right to petition an agency to issue, amend, or repeal a rule (5 U.S.C. 553(e)); (3) support governmental efforts to eliminate unnecessary burdens on the regulated community; (4) address safety concerns raised by petitioners and remove identified regulatory ambiguity; and (5) simplify and clarify the regulations in order to promote understanding and compliance.

These regulatory revisions would offer more efficient and effective ways of achieving the PHMSA goal of safe and secure transportation, protecting both people and the environment, of hazardous materials in commerce.

Alternatives

In proposing this rulemaking, PHMSA is considering the following alternatives:

Alternative 1: No Action

If PHMSA chose this alternative, it would not proceed with any rulemaking on this subject and the current regulatory standards would remain in effect. This option would not address outstanding petitions for rulemaking. We rejected the no action alternative.

Alternative 2: Go forward with the proposed amendments to the HMR in this NPRM

This alternative is the current proposal as it appears in this NPRM, applying to transport of hazardous materials by highway, rail, vessel, and aircraft. The proposed amendments encompassed in this alternative are more fully addressed in the preamble and regulatory text sections of the NPRM.

Probable Environmental Impacts of the Alternatives

When developing potential regulatory requirements, PHMSA evaluates those requirements to consider the environmental impact of each amendment. Specifically, PHMSA evaluates the: risk of release and resulting environmental impact; risk to human safety, including any risk to first responders; longevity of the packaging; and if the proposed regulation would be carried out in a defined geographic area, the resources, especially any sensitive areas, and how they could be impacted by any proposed regulations. The regulatory changes proposed in this rulemaking have been determined to be clarification, technology/design updates, harmonization, regulatory flexibility, standard incorporation, or editorial in nature. As such, these amendments have little or

no impact on: the risk of release and resulting environmental impact; human safety; or longevity of the packaging. None of these amendments would be carried out in a defined geographic area, i.e., this is a nationwide rulemaking.

Alternative 1: No Action

If PHMSA were to select the No Action Alternative, current regulations would remain in place, and no new provisions would be added. However, efficiencies gained through harmonization in updates to transport standards, lists of regulated substances, definitions, packagings, markings requirements, shipper requirements, modal requirements, etc., would not be realized. Foregone efficiencies in the No Action Alternative also include freeing up limited resources to concentrate on hazardous materials transportation issues of potentially much greater environmental impact. Not adopting the proposed environmental and safety requirements in the NPRM under the No Action Alternative would result in a lost opportunity for reducing negative environmental and safety-related impacts. Greenhouse gas emissions would remain the same under the No Action Alternative.

Alternative 2: Go forward with the proposed amendments to the HMR in this NPRM:

The Preferred Alternative encompasses enhanced and clarified regulatory requirements, which would result in increased compliance and fewer negative environmental and safety impacts. The table below summarizes the possible environmental benefits, and any potential negative impacts, for the amendments proposed in the NPRM.

Summary of Probable Environmental Impacts by Amendments		
Proposed Amendment(s) to HMR	Type of Amendment(s)	Probable Environmental Impact(s)

(lettered as above herein)		Anticipated
A. Phase-Out of Non-Normalized Tank Cars Used to Transport Poison by Inhalation (PIH) material	Regulatory Flexibility	No impacts – slightly positive benefits.
B. Limited Quantity Shipments of Hydrogen Peroxide	Regulatory Flexibility - Harmonization	No impacts
C. Markings on Portable Tanks	Regulatory Flexibility	No impacts
D. Reconditioning of Metal Drums	Regulatory Flexibility	No impacts.
E. Limited Quantity Harmonization	Regulatory Flexibility - Harmonization	No impacts.
F. Mobile Refrigeration Units	Regulatory Flexibility	No impacts.
G. Incorporation by Reference of Compressed Gas Association (CGA) Standards	Standard Incorporation	No impacts.
H. Special Provision for Explosives	Regulatory Flexibility	No impacts.
I. EX Numbers and Safety Devices	Regulatory Flexibility	No impacts.
J. Cargo Tank Reports	Regulatory Flexibility	No impacts.
K. Weight Tolerances for Paper Shipping Sacks	Regulatory Flexibility	No impacts.
L. Markings on Closed Transport Containers	Regulatory Flexibility	No impacts.
M. Finalization of the HM-246 Tank Car Standard	Regulatory Flexibility	No impacts – slightly positive benefits.
N. Phase-out of non-HM-246 Tank Cars	Harmonization	No impacts – positive benefits
O. Allow Non-RCRA Waste to Use Lab Pack Exception	Regulatory Flexibility	No impacts.
P. Incorporation of ASME Code Sections II, VIII, and IX	Standard Incorporation	No impacts.
Q. Import of Foreign Pi-Marked Cylinders	Regulatory Flexibility - Harmonization	No impacts.
R. Use of Alternative Leakproofness Test	Regulatory Flexibility	No impacts
S. Placement of the word "stabilized" in shipping description	Regulatory Flexibility	No impacts.
T. Incorporation of an Institute of Makers of Explosives (IME) Standard	Standard Incorporation	No impacts.
U. Incorporation of American Pyrotechnic Association Standard	Standard Incorporation	No impacts.

Agencies Consulted

This NPRM would affect some PHMSA stakeholders, including hazardous materials shippers and carriers by highway, rail, vessel, and aircraft, as well as package

manufacturers and testers. PHMSA sought comment from the following Federal Agencies and modal partners:

- Federal Aviation Administration
- Federal Motor Carrier Safety Administration
- Federal Railroad Administration
- U.S. Coast Guard

PHMSA did not receive any adverse comments on the amendments proposed in this NPRM from these Federal Agencies.

Conclusion

The proposed amendments are intended to update, clarify, or provide relief from certain existing regulatory requirements to promote safer transportation practices; eliminate unnecessary regulatory requirements; facilitate international commerce; and make these requirements easier to understand. These proposed amendments, if adopted, would foster a greater level of compliance with the HMR because they offer clarity and regulatory flexibility, making it easier for the regulated community to comply with the HMR. Accordingly, the net environmental impact of this proposal would be slightly positive.

The provisions of this proposed rule build on current regulatory requirements to enhance the transportation safety and security of shipments of hazardous materials transported by highway, rail, aircraft and vessel, thereby reducing the risks of an accidental or intentional release of hazardous materials and consequent environmental

damage. PHMSA believes that there are no non-negligible environmental impacts associated with this proposed rule.

PHMSA welcomes any views, data, or information related to environmental impacts that may result if the proposed requirements are adopted, as well as possible alternatives and their environmental impacts.

K. *Privacy Act*

In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to <http://www.regulations.gov>, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <http://www.dot.gov/privacy>.

L. *Executive Order 13609 and International Trade Analysis*

Under Executive Order 13609, “Promoting International Regulatory Cooperation,” agencies must consider whether the impacts associated with significant variations between domestic and international regulatory approaches are unnecessary or may impair the ability of American business to export and compete internationally. *See* 77 FR 26413 (May 4, 2012). In meeting shared challenges involving health, safety, labor, security, environmental, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation. International regulatory cooperation can also reduce,

eliminate, or prevent unnecessary differences in regulatory requirements. This proposed rule does not negatively impact international trade.

M. *Executive Order 13211*

Executive Order 13211 (“Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use”) [66 FR 28355; May 22, 2001] requires Federal agencies to prepare a Statement of Energy Effects for any “significant energy action.” Under the executive order, a “significant energy action” is defined as any action by an agency (normally published in the *Federal Register*) that promulgates, or is expected to lead to the promulgation of, a final rule or regulation (including a notice of inquiry, ANPRM, and NPRM) that: (1)(i) is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action.

PHMSA does not anticipate that this rulemaking would result in significant energy action, but welcomes any data or information related to energy impacts that may result from this NPRM, as well as possible alternatives and their energy impacts. Please describe the impacts and the basis for the comment.

N. *National Technology Transfer and Advancement Act*

The National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) directs Federal agencies to use voluntary consensus standards in their regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., specification of materials, test methods, or performance requirements) that are developed or adopted by voluntary consensus standards bodies. This NPRM involves multiple voluntary consensus standards which are listed in § 171.7.

List of Subjects

49 CFR part 107

Administrative practice and procedure, Hazardous materials transportation, Incorporation by reference, Packaging and containers, Penalties, Reporting and recordkeeping requirements.

49 CFR part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Incorporation by reference, Reporting and recordkeeping requirements, Definitions and abbreviations.

49 CFR part 172

Education, Hazardous materials transportation, Hazardous waste, Labeling, Markings, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR part 173

Hazardous materials transportation, Incorporation by reference, Training, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR part 178

Hazardous materials transportation, Incorporation by reference, Motor vehicle safety, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR part 179

Hazardous materials transportation, Incorporation by reference, Railroad safety, Reporting and recordkeeping requirements.

49 CFR part 180

Hazardous materials transportation, Incorporation by reference, Motor carriers, Motor vehicle safety, Packaging and containers, Railroad safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, we are proposing to amend 49 CFR Chapter I as follows:

PART 107—HAZARDOUS MATERIALS PROGRAM PROCEDURES

1. The authority citation for part 107 is revised to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; Pub. L. 101–410 section 4; Pub. L. 104–121, sections 212–213; Pub. L. 104–134, section 31001; Pub. L. 114–74 section 4 (28 U.S.C. 2461 note); 49 CFR 1.81 and 1.97.

2. In Appendix A to Subpart D of Part 107, in the List of Frequently Cited Violations, revise the references for the APA documents in “Offeror Requirements – Specific hazardous materials” in section B.2 to read as follows:

Appendix A to Subpart D of Part 107—Guidelines for Civil Penalties

* * * * *

Violation description	Section or cite	Baseline assessment
* * *	* *	* *
Offeror Requirements—Specific hazardous materials		
* * *	* *	* *
B. Class 1—Explosives:		
1. Failure to mark the package with the EX number for each substance contained in the package or, alternatively, indicate the EX number for each substance in association with the description on the shipping description	172.320	\$1,000.
2. Offering an unapproved explosive for transportation:	173.54, 173.56(b).	
a. Division 1.4 fireworks meeting the chemistry requirements of APA Standard 87-1A		\$5,000.
b. Division 1.3 fireworks meeting the chemistry requirements of APA Standard 87-1A		\$7,500.
c. All other explosives (including forbidden)		\$12,500 and up.
3. Offering an unapproved explosive for transportation that minimally deviates from an approved design in a manner that does not impact safety:	173.54, 173.56(b).	

a. Division 1.4		\$3,000.
b. Division 1.3		\$4,000.
c. All other explosives		\$6,000.
4. Offering a leaking or damaged package of explosives for transportation:	173.54(c).	
a. Division 1.3 and 1.4		\$12,500.
b. All other explosives		\$16,500.
5. Offering a Class 1 material that is fitted with its own means of ignition or initiation, without providing protection from accidental actuation	173.60(b)(5)	\$15,000.
6. Packaging explosives in the same outer packaging with other materials	173.61	\$9,300.
7. Transporting a detonator on the same vehicle as incompatible materials using the approved method listed in 177.835(g)(3) without meeting the requirements of IME Standard 22	177.835(g)(3)	\$10,000.
* * *	* *	* *

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3. In § 107.402, revise introductory text in paragraph (d) to read as follows:

§ 107.402 Application for designation as a certification agency.

* * * * *

(d) *Fireworks Certification Agency*. Prior to reviewing, and certifying Division 1.4G consumer fireworks (UN0336) for compliance with the APA Standard 87-1A (IBR, see § 171.7 of this chapter) as specified in part 173 of this chapter, a person must apply to, and be approved by, the Associate Administrator to act as a Fireworks Certification Agency.

* * * * *

PART 171--GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

4. The authority citation for part 171 continues to read as follows:

Authority: 49 U.S.C. 5101-5128, 44701; Pub. L. 101-410 section 4; Pub. L. 104-134, section 31001; Pub. L. 114-74 section 4 (28 U.S.C. 2461 note); 49 CFR 1.81 and 1.97.

5. In § 171.7 revise paragraphs (f), (g), (n)(4), (n)(6), (n)(9), (n)(20), (p) and paragraph (r) introductory text; and add paragraphs (r)(3), and (dd)(4) to read as follows:

§ 171.7 Reference material.

* * * * *

(f) *American Pyrotechnics Association (APA)*, P.O. Box 30438,
Bethesda, MD 20824, (301) 907-8181, www.americanpyro.com

(1) APA Standard 87-1A: Standard for the Construction, Classification, Approval and Transportation of Consumer Fireworks, January 1, 2018 version into §§ 107.402(d); 173.59; 173.64; 173.65; and appendix A to subpart D of part 107 (Guidelines for Civil Penalties).

(2) APA Standard 87-1B: Standard for the Construction, Classification, Approval, and Transportation of Display Fireworks, January 1, 2018 version into § 173.64 and appendix A to subpart D of part 107 (Guidelines for Civil Penalties).

(3) APA Standard 87-1C: Standard for the Construction, Classification, Approval, and Transportation of Entertainment Industry and Technical (EI&T) Pyrotechnics, January 1, 2018 version into § 173.64 and appendix A to subpart D of part 107 (Guidelines for Civil Penalties).

(g) *The American Society of Mechanical Engineers* (ASME), 150 Clove Road, Little Falls, NJ 07424-2139, telephone: 1-800-843-2763, <http://www.asme.org>.

(1) ASME Boiler and Pressure Vessel Code (ASME Code), 2017 Edition, July 1, 2017 (as follows), into §§ 172.102; 173.3; 173.5b; 173.24b; 173.306; 173.315; 173.318; 173.420; 178.255-1; 178.255-2; 178.255-14; 178.255-15; 178.273; 178.274; 178.276; 178.277; 178.320; 178.337-1; 178.337-2; 178.337-3; 178.337-4; 178.337-6; 178.337-16; 178.337-18; 178.338-1; 178.338-2; 178.338-3; 178.338-4; 178.338-5; 178.338-6; 178.338-13; 178.338-16; 178.338-18; 178.338-19; 178.345-1; 178.345-2; 178.345-3; 178.345-4; 178.345-7; 178.345-14; 178.345-15; 178.346-1; 178.347-1; 178.348-1; 179.400-3; 180.407:

(i) Section II—Materials—Part A—Ferrous Materials Specifications.

(ii) Section II—Materials—Part B—Nonferrous Material Specifications.

(iii) Section V—Nondestructive Examination.

(iv) Section VIII—Rules for Construction of Pressure Vessels Division 1.

(v) Section IX—Welding, Brazing, and Fusing Qualifications.

*	*	*	*	*
	(n)	*	*	*
*	*	*	*	*

(4) CGA C-6.1, Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders, 2013, Sixth Edition, into §§ 180.205; 180.209.

* * * * *

(6) CGA C-6.3, Guidelines for Visual Inspection and Requalification of Low Pressure Aluminum Compressed Gas Cylinders, 2013, Third Edition into §§ 180.205; 180.209.

* * * * *

(9) CGA C-11, Recommended Practices for Inspection of Compressed Gas Cylinders at Time of Manufacture, 2013, Fifth Edition, into § 178.35.

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(20) CGA S-7, Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders, 2013, Fifth Edition, into § 173.301.

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(p) Directive 2010/35/EU of the European Parliament and of the Council, June 16, 2010, into § 171.23.

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(r) *Institute of Makers of Explosives*, 1212 New York Ave NW #650, Washington, DC 20005.

* * * * *

(3) IME/AESC JPG Standard, Guide to Obtaining DOT Approval of Jet Perforating Guns using AESC/IME Perforating Gun Specifications, Ver. 02, dated September 1, 2017, into § 173.67.

* * * * *

(dd) * * *

* * * * *

(4) European Agreement concerning the International Carriage of Dangerous Goods by Road, 2017, into § 171.23.

* * * * *

6. In § 171.8, add the definition for “waste material” in alphabetical order to read as follows:

§ 171.8 Definitions and abbreviations.

* * * * *

Waste material means, for the purposes of lab pack requirements in § 173.12 of this subchapter, all hazardous materials which are destined for disposal or recovery, and not so limited to only those defined as a hazardous waste in this section.

* * * * *

7. In § 171.23, revise paragraph (a) to read as follows:

§ 171.23 Requirements for specific materials and packagings transported under the ICAO Technical Instructions, IMDG Code, Transport Canada TDG Regulations, or the IAEA Regulations.

* * * * *

(a) *Conditions and requirements for cylinders and pressure receptacles.* (1)

Except as provided in this paragraph (a), a filled cylinder (pressure receptacle) manufactured to other than a DOT specification or a UN standard in accordance with part 178 of this subchapter, a DOT exemption or special permit cylinder, a TC, CTC, CRC, or BTC cylinder authorized under § 171.12, or a cylinder used as a fire extinguisher in conformance with § 173.309(a) of this subchapter, may not be transported to, from, or within the United States.

(2) Cylinders (including UN pressure receptacles) transported to, from, or within the United States must conform to the applicable requirements of this subchapter. Unless otherwise excepted in this subchapter, a cylinder must not be transported unless—

(i) The cylinder is manufactured, inspected and tested in accordance with a DOT specification or a UN standard prescribed in part 178 of this subchapter, or a TC, CTC, CRC, or BTC specification set out in the Transport Canada TDG Regulations (IBR, see § 171.7), except that cylinders not conforming to these requirements must meet the requirements in paragraph (a)(3), (4), or (5) of this section;

(ii) The cylinder is equipped with a pressure relief device in accordance with § 173.301(f) of this subchapter and conforms to the applicable requirements in part 173 of this subchapter for the hazardous material involved;

(iii) The openings on an aluminum cylinder in oxygen service conform to the requirements of this paragraph, except when the cylinder is used for aircraft parts or used aboard an aircraft in accordance with the applicable airworthiness requirements and operating regulations. An aluminum DOT specification cylinder must have an opening

configured with straight (parallel) threads. A UN pressure receptacle may have straight (parallel) or tapered threads provided the UN pressure receptacle is marked with the thread type, *e.g.* “17E, 25E, 18P, or 25P” and fitted with the properly marked valve; and

(iv) A UN pressure receptacle is marked with “USA” as a country of approval in conformance with §§178.69 and 178.70 of this subchapter, or “CAN” for Canada.

(3) *Pi-marked pressure receptacles.* Pressure receptacles that are marked with a pi mark in accordance with the European Directive 2010/35/EU on transportable pressure equipment (TPED) and that comply with the requirements of Packing Instruction P200 or P208 and 6.2.2 of the Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) concerning pressure relief device (PRD) use, test period, filling ratios, test pressure, maximum working pressure, and material compatibility for the lading contained or gas being filled, are authorized as follows:

(i) Import: Filled pressure receptacles may be imported into the United States, transported to point of use, including storage incidental to movement, and discharged and exported.

(ii) Export: Pressure receptacle may be filled with a gas in the United States and offered for transportation and transported, including storage incidental to movement, for export.

(iii) The bill of lading or other shipping paper must identify the cylinder and include the following certification: “This cylinder has (These cylinders have) conform to the requirements for pi-marked cylinders found in 171.23(a)(3).”

(4) *Importation of cylinders for discharge within a single port area.* A cylinder manufactured to other than a DOT specification or UN standard in accordance with part 178 of this subchapter, or a TC, CTC, BTC, or CRC specification cylinder set out in the Transport Canada TDG Regulations (IBR, see § 171.7), and certified as being in conformance with the transportation regulations of another country may be authorized, upon written request to and approval by the Associate Administrator, for transportation within a single port area, provided—

(i) The cylinder is transported in a closed freight container;

(ii) The cylinder is certified by the importer to provide a level of safety at least equivalent to that required by the regulations in this subchapter for a comparable DOT, TC, CTC, BTC, or CRC specification or UN cylinder; and

(iii) The cylinder is not refilled for export unless in compliance with paragraph (a)(5) of this section.

(5) *Filling of cylinders for export or for use on board a vessel.* A cylinder not manufactured, inspected, tested and marked in accordance with part 178 of this subchapter, or a cylinder manufactured to other than a UN standard, DOT specification, exemption or special permit, or other than a TC, CTC, BTC, or CRC specification, may be filled with a gas in the United States and offered for transportation and transported for export or alternatively, for use on board a vessel, if the following conditions are met:

(i) The cylinder has been requalified and marked with the month and year of requalification in accordance with subpart C of part 180 of this subchapter, or has been requalified as authorized by the Associate Administrator;

(ii) In addition to other requirements of this subchapter, the maximum filling density, service pressure, and pressure relief device for each cylinder conform to the requirements of this part for the gas involved; and

(iii) The bill of lading or other shipping paper identifies the cylinder and includes the following certification: “This cylinder has (These cylinders have) been qualified, as required, and filled in accordance with the DOT requirements for export.”

(6) *Cylinders not equipped with pressure relief devices.* A DOT specification or a UN cylinder manufactured, inspected, tested and marked in accordance with part 178 of this subchapter and otherwise conforms to the requirements of part 173 of this subchapter for the gas involved, except that the cylinder is not equipped with a pressure relief device may be filled with a gas and offered for transportation and transported for export if the following conditions are met:

(i) Each DOT specification cylinder or UN pressure receptacle must be plainly and durably marked “For Export Only”;

(ii) The shipping paper must carry the following certification: “This cylinder has (These cylinders have) been retested and refilled in accordance with the DOT requirements for export.”; and

(iii) The emergency response information provided with the shipment and available from the emergency response telephone contact person must indicate that the pressure receptacles are not fitted with pressure relief devices and provide appropriate guidance for exposure to fire.

* * * * *

**PART 172--HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS,
HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE
INFORMATION, AND TRAINING REQUIREMENTS**

8. The authority citation for part 172 continues to read as follows:

Authority: 49 U.S.C. 5101-5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

9. In § 172.101, add paragraph (c)(17) and amend the Hazardous Materials Table to revise entries under “[REVISE]” in the appropriate alphabetical sequence to read as follows:

§ 172.101 Purpose and use of the hazardous materials table.

* * * * *

(c) * * *

(17) Unless it is already included in the proper shipping name in the § 172.101 Table, the qualifying word “stabilized” may be added in association with the proper shipping name, as appropriate, where without stabilization the substance would be forbidden for transportation according to § 173.21(f) of this subchapter.

* * * * *

Sym-bols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or division (3)	Identification Numbers (4)	PG (5)	Label Codes (6)	Special Provisions (§ 172.102) (7)	(8)			(9)		(10)	
							Packaging (§ 173.***)			Quantity limitations (see §§ 173.27 and 175.75)		Vessel stowage	
							Excep-tions (8A)	Non-bulk (8B)	Bulk (8C)	Passenger aircraft/rail (9A)	Cargo aircraft only (9B)	Loca-tion (10A)	Other (10B)
	[REVISE]												
	Allyl isothiocyanate, stabilized	6.1	UN1545	II	6.1, 3	387, A3, A7, IB2, T7, TP2	153	202	243	Forbidden	60 L	D	25, 40
	*		*		*		*		*		*		*
	Aluminum smelting by-products <i>or</i> Aluminum remelting by-products	4.3	UN3170	II	4.3	128, B115, IB7, IP2, IP21, T3, TP33, W31, W40	151	212	242	15 kg	50 kg	B	13, 85, 103, 148
				III	4.3	128, B115, IB8, IP21, T1, TP33, W31	None	213	241	25 kg	100 kg	B	13, 85, 103, 148
	*		*		*		*		*		*		*
G	Amine, liquid, corrosive, flammable, n.o.s. or Polyamines, liquid, corrosive, flammable, n.o.s.	8	UN2734	I	8, 3	A3, A6, N34, T14, TP2, TP27	None	201	243	0.5L	2.5L	A	52
				II	8, 3	IB2, T11, TP2, TP27	154	201	243	1L	30L	A	52
	*		*		*		*		*		*		*
	Amyl mercaptan	3	UN1111	II	3	A3, A6, IB2, T4, TP1	150	202	242	5 L	60 L	B	95, 102
	*		*		*		*		*		*		*
	Antimony pentachloride, liquid	8	UN1730	II	8	B2, IB2, T7, TP2	154	202	242	1 L	30 L	C	40
	*		*		*		*		*		*		*

	Antimony pentafluoride	8	UN1732	II	8, 6.1	A3, A6, A7, A10, IB2, N3, N36, T7, TP2	154	202	243	Forbidden	30 L	D	40, 44, 89, 100, 141
	*		*		*		*		*		*		*
	Batteries, dry, containing potassium hydroxide solid, <i>electric storage</i>	8	UN3028		8	237	154	213	None	25 kg	230 kg	A	52
	*		*		*		*		*		*		*
	Borneol	4.1	UN1312	III	4.1	A1, IB8, IP3, T1, TP33	151	213	240	25 kg	100 kg	A	
	*		*		*		*		*		*		*
	5-tert-Butyl-2,4,6-trinitro-m-xylene <i>or</i> Musk xylene	4.1	UN2956	III	4.1	159	151	223	None	Forbidden	Forbidden	D	12, 25, 40, 127
	*		*		*		*		*		*		*
	1,4-Butynediol	6.1	UN2716	III	6.1	A1, IB8, IP3, T1, TP33	153	213	240	100 kg	200 kg	C	52, 53, 70
	*		*		*		*		*		*		*
	Calcium resinate	4.1	UN1313	III	4.1	A1, A19, IB6, T1, TP33	151	213	240	25 kg	100 kg	A	
	Calcium resinate, fused	4.1	UN1314	III	4.1	A1, A19, IB4, T1, TP33	151	213	240	25 kg	100 kg	A	
	*		*		*		*		*		*		*
	Camphor, <i>synthetic</i>	4.1	UN2717	III	4.1	A1, IB8, IP3, T1, TP33	151	213	240	25 kg	100 kg	A	
	*		*		*		*		*		*		*
	Celluloid, <i>in block, rods, rolls, sheets, tubes, etc., except scrap</i>	4.1	UN2000	III	4.1	420	151	213	240	25 kg	100 kg	A	
	*		*		*		*		*		*		*
	Cerium, <i>slabs, ingots, or rods</i>	4.1	UN1333	II	4.1	IB8, IP2, IP4, N34, W100	151	212	240	15 kg	50 kg	A	13, 74, 91, 147, 148
	*		*		*		*		*		*		*

	Chloric acid aqueous solution, <i>with not more than 10 percent chloric acid</i>	5.1	UN2626	II	5.1	IB2, T4, TP1, W31	152	229	None	Forbidden	Forbidden	D	56, 58
	*		*		*		*		*		*		*
	1-Chloropropane	3	UN1278	II	3	IB2, IP8, N34, T7, TP2	150	202	242	Forbidden	60 L	E	
	Chromium trioxide, anhydrous	5.1	UN1463	II	5.1, 6.1, 8	IB8, IP2, IP4, T3, TP33, W31	152	212	242	5 kg	25 kg	A	66, 90
	*		*		*		*		*		*		*
	Corrosive liquids, flammable, n.o.s.	8	UN2920	I	8, 3	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	C	25, 40
				II	8, 3	B2, IB2, T11, TP2, TP27	154	202	243	1 L	30 L	C	25, 40
	*		*		*		*		*		*		*
G	Corrosive liquids, oxidizing, n.o.s.	8	UN3093	I	8, 5.1	A6, A7	None	201	243	Forbidden	2.5 L	C	89
				II	8, 5.1	A6, A7, IB2	154	202	243	1 L	30 L	C	89
	*		*		*		*		*		*		*
	Corrosive solids, flammable, n.o.s.	8	UN2921	I	8, 4.1	IB6, T6, TP33	None	211	242	1 kg	25 kg	B	12, 25
				II	8, 4.1	IB8, IP2, IP4, T3, TP33	154	212	242	15 kg	50 kg	B	12, 25
	*		*		*		*		*		*		*
G	Corrosive solids, oxidizing, n.o.s.	8	UN3084	I	8, 5.1	T6, TP33	None	211	242	1 kg	25 kg	C	
				II	8, 5.1	154, IB6, IP2, T3, TP33	154	212	242	15 kg	50 kg	C	
	*		*		*		*		*		*		*
G	Corrosive solids, water-reactive, n.o.s.	8	UN3096	I	8, 4.3	IB4, IP1, T6, TP33	None	211	243	1 kg	25 kg	D	13, 148

				II	8, 4.3	IB6, IP2, T3, TP33, W100	154	212	242	15 kg	50 kg	D	13, 148
G	Corrosive liquids, oxidizing, n.o.s.	8	UN3093	I	8, 5.1	A6, A7	None	201	243	Forbidden	2.5 L	C	89
				II	8, 5.1	A6, A7, IB2	154	202	243	1 L	30 L	C	89
	*		*		*		*		*		*		*
G	Corrosive solids, oxidizing, n.o.s.	8	UN3084	I	8, 5.1	T6, TP33	None	211	242	1 kg	25 kg	C	
				II	8, 5.1	154, IB6, IP2, T3, TP33	154	212	242	15 kg	50 kg	C	
G	Corrosive solids, self-heating, n.o.s.	8	UN3095	I	8, 4.2	T6, TP33	None	211	243	1 kg	25 kg	C	
				II	8, 4.2	IB6, IP2, T3, TP33	154	212	242	15 kg	50 kg	C	
	*		*		*		*		*		*		*
G	Corrosive solids, water-reactive, n.o.s.	8	UN3096	I	8, 4.3	IB4, IP1, T6, TP33	None	211	243	1 kg	25 kg	D	13, 148
				II	8, 4.3	IB6, IP2, T3, TP33, W100	154	212	242	15 kg	50 kg	D	13, 148
*	*	*	*	*	*	*	*	*	*	*	*	*	**
	Cyanuric chloride	8	UN2670	II	8	IB8, IP2, IP4, T3, TP33	None	212	240	15 kg	50 kg	A	12, 25, 40
	*		*		*		*		*		*		*
	Cyclohexylamine	8	UN2357	II	8, 3	IB2, T7, TP2	154	202	243	1 L	30 L	A	40
	*		*		*		*		*		*		*
	Decaborane	4.1	UN1868	II	4.1, 6.1	A19, A20, IB6, IP2, T3, TP33, W31	151	212	None	Forbidden	50 kg	A	74
	*		*		*		*		*		*		*
	Detonator assemblies, non-electric, for blasting	1.4B	UN0361		1.4B	148	63(f), 63(g)	62	None	Forbidden	75 kg	05	25
	*		*		*		*		*		*		*

	Detonators, electric, for blasting	1.4B	UN0255		1.4B	148	63(f), 63(g)	62	None	Forbidden	75 kg	05	25
	*		*		*		*		*		*		*
	Detonators for ammunition	1.4B	UN0365		1.4B		None	62	None	Forbidden	75 kg	05	25
	*		*		*		*		*		*		*
	Detonators, non-electric, for blasting	1.4B	UN0267		1.4B		63(f), 63(g)	62	None	Forbidden	75 kg	05	25
	*		*		*		*		*		*		*
	Diethyl sulfide	3	UN2375	II	3	IB2, T7, TP1, TP13	150	202	243	5 L	60 L	E	
	*		*		*		*		*		*		*
	2-Diethylaminoethanol	8	UN2686	II	8, 3	B2, IB2, T7, TP2	154	202	243	1 L	30 L	A	
	*		*		*		*		*		*		*
	N,N-Diethylethylenediamine	8	UN2685	II	8, 3	IB2, T7, TP2	154	202	243	1 L	30 L	A	
	*		*		*		*		*		*		*
	Diethylthiophosphoryl chloride	8	UN2751	II	8	B2, IB2, T7, TP2	154	212	240	15 kg	50 kg	D	12, 25, 40
	*		*		*		*		*		*		*
	Difluorophosphoric acid, anhydrous	8	UN1768	II	8	A6, A7, B2, IB2, N5, N34, T8, TP2	154	202	242	1 L	30 L	A	40
	*		*		*		*		*		*		*
	Di-n-butylamine	8	UN2248	II	8, 3	IB2, T7, TP2	154	202	243	1 L	30 L	A	
	*		*		*		*		*		*		*
	Ethyl bromoacetate	6.1	UN1603	II	6.1, 3	IB2, T7, TP2	153	202	243	Forbidden	Forbidden	D	40

	*		*		*		*		*		*		*
	Fibers or Fabrics impregnated with weakly nitrated nitrocellulose, n.o.s.	4.1	UN1353	III	4.1	A1, IB8, IP3	151	213	240	25 kg	100 kg	D	
	*		*		*		*		*		*		*
	Films, nitrocellulose base, <i>gelatine coated (except scrap)</i>	4.1	UN1324	III	4.1		151	183	None	25 kg	100 kg	D	28
	*		*		*		*		*		*		*
	Firelighters, solid with <i>flammable liquid</i>	4.1	UN2623	III	4.1	A1, A19	151	213	None	25 kg	100 kg	A	52
	*		*		*		*		*		*		*
G	Flammable solid, oxidizing, n.o.s.	4.1	UN3097	II	4.1, 5.1	131	151	214	214	Forbidden	Forbidden	E	40
				III	4.1, 5.1	131, T1, TP33	151	214	214	Forbidden	Forbidden	D	40
	*		*		*		*		*		*		*
	Flammable solids, corrosive, organic, n.o.s.	4.1	UN2925	II	4.1, 8	A1, IB6, IP2, T3, TP33	151	212	242	15 kg	50 kg	D	40
				III	4.1, 8	A1, IB6, T1, TP33	151	213	242	25 kg	100 kg	D	40
	*		*		*		*		*		*		*
	Fluorophosphoric acid anhydrous	8	UN1776	II	8	A6, A7, B2, IB2, N3, N34, T8, TP2	154	202	242	1 L	30 L	A	
	*		*		*		*		*		*		*
	Fluorosilicic acid	8	UN1778	II	8	A6, A7, B2, B15, IB2, N3, N34, T8, TP2	154	202	242	1 L	30 L	A	
	*		*		*		*		*		*		*
	Gallium	8	UN2803	III	8	T1, TP33	154	162	240	20 kg	20 kg	B	25

	*		*		*		*		*		*		*
	Hafnium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	UN1326	II	4.1	A6, A19, A20, IB6, IP2, N34, T3, TP33, W31, W40	151	212	241	15 kg	50 kg	E	74
	*		*		*		*		*		*		*
	Hexadienes	3	UN2458	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	
	*		*		*		*		*		*		*
	Hexafluorophosphoric acid	8	UN1782	II	8	A6, A7, B2, IB2, N3, N34, T8, TP2	154	202	242	1 L	30 L	A	
	*		*		*		*		*		*		*
	Hexamethylenediamine solution	8	UN1783	II	8	IB2, T7, TP2	154	202	242	1 L	30 L	A	
				III	8	IB3, T4, TP1	154	203	241	5 L	60 L	A	
	*		*		*		*		*		*		*
	Hydrazine aqueous solution, with more than 37% hydrazine, by mass	8	UN2030	I	8, 6.1	B16, B53, T10, TP2, TP13	None	201	243	Forbidden	2.5 L	D	40, 52
				II	8, 6.1	B16, B53, IB2, T7, TP2, TP13	154	202	243	Forbidden	30 L	D	40, 52
				III	8, 6.1	B16, B53, IB3, T4, TP1	154	203	241	5 L	60 L	D	40, 52
	*		*		*		*		*		*		*
	Hydrogen peroxide and peroxyacetic acid mixtures, stabilized with acids, water, and not more than 5 percent peroxyacetic acid	5.1	UN3149	II	5.1, 8	145, A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24	152	202	243	1 L	5 L	D	25, 66, 75.

	Hydrogen, peroxide, aqueous solutions with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary)	5.1	UN2014	II	5.1, 8	12, A60, B53, B80, B81, B85, IB2, IP5, T7, TP2, TP6, TP24, TP37	152	202	243	Forbidden	Forbidden	D	25, 66, 75
	Hydrogen peroxide, aqueous solutions with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)	5.1	UN2014	II	5.1, 8	A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24, TP37	152	202	243	1 L	5 L	D	25, 66, 75
	*		*		*		*		*		*		*
	Hydrogendifluoride, solid, n.o.s.	8	UN1740	II	8	IB8, IP2, IP4, N3, N34, T3, TP33	154	212	240	15 kg	50 kg	A	25, 40, 52
				III	8	IB8, IP3, N3, N34, T1, TP33	154	213	240	25 kg	100 kg	A	25, 40, 52
	*		*		*		*		*		*		*
	Iodine monochloride, solid	8	UN1792	II	8	B6, IB8, IP2, IP4, N41, T7, TP2	154	212	240	Forbidden	50 kg	D	40, 66, 74,
	*		*		*		*		*		*		*
	Lead phosphite, dibasic	4.1	UN2989	II	4.1	IB8, IP2, IP4, T3, TP33	151	212	240	15 kg	50 kg	B	34.
				III	4.1	IB8, IP3, T1, TP33	151	213	240	25 kg	100 kg	B	34.
	*		*		*		*		*		*		*
	Mercaptans, liquid, flammable, toxic, n.o.s. <i>or</i> Mercaptan mixtures, liquid, flammable, toxic, n.o.s.	3	UN1228	II	3, 6.1	IB2, T11, TP2, TP27	150	202	243	Forbidden	60 L	B	40, 95, 102
				III	3, 6.1	A6, B1, IB3, T7, TP1, TP28	150	203	242	5 L	220 L	A	40, 95, 102
	*		*		*		*		*		*		*
	2-Methyl-2-butene	3	UN2460	II	3	IB2, IP8, T7, TP1	150	202	242	5 L	60 L	E	

	*		*		*		*		*		*		*
	Methylal	3	UN1234	II	3	IB2, IP8, T7, TP2	150	202	242	5 L	60 L	E	
	*		*		*		*		*		*		*
	Nitrating acid mixtures spent with not more than 50 percent nitric acid	8	UN1826	II	8	A7, B2, IB2, T8, TP2	154	158	242	Forbidden	30 L	D	40
	*		*		*		*		*		*		*
	Nitrating acid mixtures with not more than 50 percent nitric acid	8	UN1796	II	8	A7, B2, IB2, T8, TP2, TP13	154	158	242	Forbidden	30 L	D	40
	*		*		*		*		*		*		*
	Nitric acid other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid	8	UN2031	II	8, 5.1	A6, B2, B47, B53, IB2, IP15, T8, TP2	154	158	242	Forbidden	30 L	D	66, 74, 89, 90
	Nitric acid other than red fuming, with more than 20 percent and less than 65 percent nitric acid	8	UN2031	II	8	A6, A212, B2, B47, B53, IB2, IP15, T8, TP2	154	158	242	Forbidden	30 L	D	44, 66, 74, 89, 90
	Nitric acid other than red fuming with not more than 20 percent nitric acid	8	UN2031	II	8	A6, B2, B47, B53, IB2, T8, TP2	154	158	242	1 L	30 L	D	
	*		*		*		*		*		*		*
	Octafluorobut-2-ene or Refrigerant gas R 1318	2.2	UN2422		2.2		306	304	314, 315	75 kg	150 kg	A	
	Octafluorocyclobutane, or Refrigerant gas RC 318	2.2	UN1976		2.2	T50	306	304	314, 315	75 kg	150 kg	A	
	Octafluoropropane or Refrigerant gas R 218	2.2	UN2424		2.2	T50	306	304	314, 315	75 kg	150 kg	A	
	*		*		*		*		*		*		*
G	Organometallic substance, liquid, water-reactive	4.3	UN3398	I	4.3	T13, TP2, TP7, TP36, TP47, W31	None	201	244	Forbidden	1 L	D	13, 40, 52, 148
				II	4.3	IB1, IP2, T7, TP2, TP7, TP36, TP47,	151	202	243	1 L	5 L	D	13, 40, 52, 148

						W31							
				III	4.3	IB2, IP4, T7, TP2, TP7, TP36, TP47, W31	151	203	242	5 L	60 L	E	13, 40, 52, 148
G	Organometallic substance, liquid, water-reactive, flammable	4.3	UN3399	I	4.3, 3	T13, TP2, TP7, TP36, TP47, W31	None	201	244	Forbidden	1 L	D	13, 40, 52, 148
				II	4.3, 3	IB1, IP2, T7, TP2, TP7, TP36, TP47, W31	151	202	243	1 L	5 L	D	13, 40, 52, 148
				III	4.3, 3	IB2, IP4, T7, TP2, TP7, TP36, TP47, W31	151	203	242	5 L	60 L	E	13, 40, 52, 148
	*		*		*		*		*		*		*
G	Organometallic substance, solid, water-reactive, self- heating	4.3	UN3397	I	4.3, 4.2	N40, T9, TP7, TP33, TP36, TP47, W31	None	211	242	Forbidden	15 kg	E	13, 40, 52, 148
				II	4.3, 4.2	IB4, T3, TP33, TP36, TP47, W31	151	212	242	15 kg	50 kg	E	13, 40, 52, 148
				III	4.3, 4.2	IB6, T1, TP33, TP36, TP47, W31	151	213	241	25 kg	100 kg	E	13, 40, 52, 148
	*		*		*		*		*		*		*
G	Oxidizing liquid, corrosive, n.o.s.	5.1	UN3098	I	5.1, 8	62, A6	None	201	244	Forbidden	2.5 L	D	13, 56, 58, 138
				II	5.1, 8	62, IB1	152	202	243	1 L	5 L	B	13, 56, 58, 138
				III	5.1, 8	62, IB2	152	203	242	2.5 L	30 L	B	13, 56, 58, 138
	*		*		*		*		*		*		*
G	Oxidizing solid, water reactive, n.o.s.	5.1	UN3121	I	5.1, 4.3	62	None	214	214	Forbidden	Forbidden		13, 148
				II	5.1, 4.3	62	152	214	214	Forbidden	Forbidden		13, 148

	Perchloric acid <i>with not more than 50 percent acid by mass</i>	8	UN1802	II	8, 5.1	IB2, N41, T7, TP2	154	202	243	Forbidden	30 L	C	66
	*		*		*		*		*		*		*
	Peroxides, inorganic, n.o.s.	5.1	UN1483	II	5.1	A7, A20, IB6, IP2, N34, T3, TP33, W100	152	212	242	5 kg	25 kg	C	13, 52, 66, 75, 148
				III	5.1	A7, A20, B134, IB8, IP21, N34, T1, TP33, W100	152	213	240	25 kg	100 kg	C	13, 52, 66, 75, 148
	*		*		*		*		*		*		*
	Phosphorus heptasulfide, <i>free from yellow or white phosphorus</i>	4.1	UN1339	II	4.1	A20, IB4, N34, T3, TP33, W31	151	212	240	15 kg	50 kg	B	13, 74, 147, 148
	*		*		*		*		*		*		*
	Phosphorus, amorphous	4.1	UN1338	III	4.1	A1, A19, B1, B9, B26, IB8, IP3, T1, TP33	151	213	243	25 kg	100 kg	A	74
	*		*		*		*		*		*		*
	Phosphorus oxybromide	8	UN1939	II	8	B8, IB8, IP2, IP4, N41, N43, T3, TP33	154	212	240	Forbidden	50 kg	C	12, 25, 40
	*		*		*		*		*		*		*
	Phosphorus pentachloride	8	UN1806	II	8	A7, IB8, IP2, IP4, N34, T3, TP33	154	212	240	Forbidden	50 kg	C	40, 44, 89, 100, 141
	Phosphorus sesquisulfide, <i>free from yellow or white phosphorus</i>	4.1	UN1341	II	4.1	A20, IB4, N34, T3, TP33, W31	151	212	240	15 kg	50 kg	B	74
	Phosphorus tribromide	8	UN1808	II	8	A3, A6, A7, B2, B25, IB2, N34, N43, T7, TP2	154	202	242	Forbidden	30 L	C	40

	*		*		*		*		*		*		*
	Phosphorus trisulfide, <i>free from yellow or white phosphorus</i>	4.1	UN1343	II	4.1	A20, IB4, N34, T3, TP33, W31	151	212	240	15 kg	50 kg	B	13, 74, 147, 148
	*		*		*		*		*		*		*
	Propionitrile	3	UN2404	II	3, 6.1	IB2, T7, TP1, TP13	150	202	243	Forbidden	60 L	E	40
	*		*		*		*		*		*		*
	1,2-Propylenediamine	8	UN2258	II	8, 3	A3, A6, IB2, N34, T7, TP2	154	202	243	1 L	30 L	A	40
	*		*		*		*		*		*		*
	Pyridine	3	UN1282	II	3	IB2, T4, TP2	150	202	242	5 L	60 L	B	21, 100
	*		*		*		*		*		*		*
	Safety devices, pyrotechnic	1.4G	UN0503		1.4G	A200	166	62	166	Forbidden	75 kg	02	25
	*		*		*		*		*		*		*
	Silicon powder, amorphous	4.1	UN1346	III	4.1	A1, IB8, IP3, T1, TP33	151	213	240	25 kg	100 kg	A	74
	*		*		*		*		*		*		*
	Sludge, acid	8	UN1906	II	8	A3, A7, B2, IB2, N34, T8, TP2, TP28	154	202	242	Forbidden	30 L	C	14
	*		*		*		*		*		*		*
	Sodium chlorite	5.1	UN1496	II	5.1	A9, IB8, IP2, IP4, N34, T3, TP33	152	212	242	5 kg	25 kg	A	56, 58
	*		*		*		*		*		*		*
I	Sulfur	4.1	UN1350	III	4.1	30, B120, IB8, IP3, T1, TP33	151	None	240	25 kg	100 kg	A	25, 74
	*		*		*		*		*		*		*

	Sulfuric acid, spent	8	UN1832	II	8	A3, A7, B2, B83, B84, IB2, N34, T8, TP2	154	202	242	Forbidden	30 L	C	14
	Tetrafluoromethane or Refrigerant gas R 14	2.2	UN1982		2.2		306	302	None	75 kg	150 kg	A	
	*		*		*		*		*		*		*
	Tetrahydrofuran	3	UN2056	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	
	Thiophosphoryl chloride	8	UN1837	II	8	A3, A7, B2, B8, B25, IB2, N34, T7, TP2	154	202	242	Forbidden	30 L	C	40
	*		*		*		*		*		*		*
	Titanium hydride	4.1	UN1871	II	4.1	A19, A20, IB4, N34, T3, TP33, W31, W40	151	212	241	15 kg	50 kg	E	
	*		*		*		*		*		*		*
	Titanium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	UN1352	II	4.1	A19, A20, IB6, IP2, N34, T3, TP33, W31, W40	151	212	240	15 kg	50 kg	E	74
	Titanium sponge granules or Titanium sponge powders	4.1	UN2878	III	4.1	A1, B134, IB8, IP21, T1, TP33, W100	151	213	240	25 kg	100 kg	D	13, 74, 147, 148
	*		*		*		*		*		*		*

G	Toxic liquids, water-reactive, n.o.s.	6.1	UN3123	I	6.1, 4.3	A4	None	201	243	Forbidden	1 L	E	13,40, 148
				II	6.1, 4.3	IB2	153	202	243	1 L	5 L	E	13, 40, 148
	*		*		*		*		*		*		*
G	Toxins, extracted from living sources, liquid, n.o.s.	6.1	UN3172	I	6.1	141	None	201	243	1 L	30 L	B	40
				II	6.1	141, IB2	153	202	243	5 L	60 L	B	40
				III	6.1	141, IB3	153	203	241	60 L	220 L	B	40
G	Toxins, extracted from living sources, solid, n.o.s.	6.1	UN3462	I	6.1	141, IB7, IP1, T6, TP33	None	211	243	5 kg	50 kg	B	
				II	6.1	141, IB8, IP2, IP4, T3 TP33	153	212	243	25 kg	100 kg	B	
				III	6.1	141, IB8, IP3, T1 TP33	153	213	241	100 kg	200 kg	A	
	*		*		*		*		*		*		*
G	Toxins, extracted from living sources, solid, n.o.s.	6.1	UN3462	I	6.1	141, IB7, IP1, T6, TP33	None	211	243	5 kg	50 kg	B	G
				II	6.1	141, IB8, IP2, IP4, T3 TP33	153	212	243	25 kg	100 kg	B	
				III	6.1	141, IB8, IP3, T1 TP33	153	213	241	100 kg	200 kg	A	
	*		*		*		*		*		*		*
	Triallylamine	3	UN2610	III	3, 8	B1, IB3, T4, TP1	150	203	242	5 L	60 L	A	40
	*		*		*		*		*		*		*
G	Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	I	4.3, 8	T14, TP2, TP7, TP13	None	201	243	Forbidden	1 L	D	13, 148
				II	4.3, 8	IB1, T11, TP2, TP7	151	202	243	1 L	5 L	E	13, 85, 148
				III	4.3, 8	IB2, T7, TP2, TP7	151	203	242	5 L	60 L	E	13, 148
G	Water-reactive liquid, n.o.s.	4.3	UN3148	I	4.3	T13, TP2, TP7, TP41, W31	None	201	244	Forbidden	1 L	E	13, 40, 148

				II	4.3	IB1, T7, TP2, TP7, W31	151	202	243	1 L	5 L	E	13, 40, 148
				III	4.3	IB2, T7, TP2, TP7, W31	151	203	242	5 L	60 L	E	13, 40, 148
G	Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	I	4.3, 6.1	A4	None	201	243	Forbidden	1 L	D	13, 148
				II	4.3, 6.1	IB1	151	202	243	1 L	5 L	E	13, 85, 148
				III	4.3, 6.1	IB2	151	203	242	5 L	60 L	E	13, 85, 148
	*		*		*		*		*		*		*
G	Water-reactive, solid, oxidizing, n.o.s.	4.3	UN3133	II	4.3, 5.1		151	214	214	Forbidden	Forbidden	E	13, 40, 148
				III	4.3, 5.1		151	214	214	Forbidden	Forbidden	E	13, 40, 148
	*		*		*		*		*		*		*
	Zinc ammonium nitrite	5.1	UN1512	II	5.1	IB8, IP4, T3, TP33	152	212	242	5 kg	25 kg	E	
	*		*		*		*		*		*		*
	Zinc chloride, anhydrous	8	UN2331	III	8	IB8, IP3, T1, TP33	154	213	240	25 kg	100 kg	A	
	*		*		*		*		*		*		*
	Zirconium hydride	4.1	UN1437	II	4.1	A19, A20, IB4, N34, T3, TP33, W31, W40	151	212	240	15 kg	50 kg	E	
	*		*		*		*		*		*		*
	Zirconium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	UN1358	II	4.1	A19, A20, IB6, IP2, N34, T3, TP33, W31, W40	151	212	241	15 kg	50 kg	E	13, 74, 147, 148

	*		*		*		*		*		*		*
	Zirconium suspended in a liquid	3	UN1308	I	3		None	201	243	Forbidden	Forbidden	B	
				II	3	IB2	150	202	242	5 L	60 L	B	
				III	3	B1, IB2	150	203	242	60 L	220 L	B	
	*		*		*		*		*		*		*

§ 172.102 {Amended]

10. In § 172.102, in paragraph (c)(1) remove special provision 103.

11. In § 172.302, revise paragraph (b)(2) to read as follows:

§ 172.302 General marking requirements for bulk packagings.

* * * * *

(b) * * *

(2) Have a width of at least 4.0 mm (0.16 inch) and a height of at least 12 mm (0.47 inch) for portable tanks with capacities of less than 3,785 L (1,000 gallons) and a width of at least 4.0 mm (0.16 inch) and a height of 25 mm (one inch) for IBCs; and

* * * * *

**PART 173--SHIPPERS--GENERAL REQUIREMENTS FOR SHIPMENTS AND
PACKAGINGS**

12. The authority citation for part 173 continues to read as follows:

Authority: 49 U.S.C. 5101-5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

13. In § 173.5b, revise paragraph (b) to read as follows:

§ 173.5b Portable and mobile refrigeration systems.

* * * * *

(b) *Refrigeration systems placed into service prior to June 1, 1991.* (1) For refrigeration systems placed into service prior to June 1, 1991, each pressure vessel and associated piping must be rated at a MAWP of not less than 250 psig. During

transportation, pressure in the components that are part of the evaporating line may not exceed 150 psig.

(2) Each pressure vessel and associated piping that is part of the evaporating line must be marked "LOW SIDE" in a permanent and clearly visible manner. The evaporating line must have a pressure gauge with corresponding temperature markings mounted in a manner that is easily readable when standing on the ground. The gauge must be permanently marked or tagged "SATURATION GAUGE."

(3) Each pressure vessel and associated piping containing liquid anhydrous ammonia must be isolated using appropriate means from piping and components marked "LOW SIDE."

(4) Prior to transportation, each pressure vessel and associated piping must be relieved of enough gaseous lading to ensure that the MAWP is not exceeded at transport temperatures up to 54 °C (130 °F).

* * * * *

14. In § 173.28, revise (c)(1)(i) to read as follows:

§ 173.28 Reuse, reconditioning and remanufacture of packagings.

(c) * * *

(1) * * *

(i) Cleaning to base material of construction, with all former contents and internal and external corrosion removed, and any external coatings and labels substantially

removed to the extent that tightly adhering paint, mill scale, and rust may remain on no more than 10 percent of each unit's surface area;

* * * * *

15. In § 173.31, revise paragraph (e) to read as follows;

§173.31 Use of tank cars.

* * * * *

(e) *Special requirements for poisonous by inhalation (PIH) material.* (1) *Interior heater coils.* Tank cars used for PIH material may not have interior heater coils.

(2) *Tank car specifications.* A tank car used for a PIH material must have a tank test pressure of 20.7 Bar (300 psig) or greater, head protection, and a metal jacket (e.g., DOT 105S300W), except that—

(i) A higher test pressure is required if otherwise specified in this subchapter; and

(ii) Each tank car constructed on or after March 16, 2009, and used for the transportation of PIH materials must meet the applicable authorized tank car specifications and standards listed in § 173.244(a)(2) or (3) and § 173.314(c) or (d).

(iii) A tank car owner retiring or otherwise removing a tank car from service transporting PIH material, other than because of damage to the car, must retire or remove cars constructed of non-normalized steel in the head or shell before removing any car in service transporting PIH materials constructed of normalized steel meeting the applicable DOT specification.

(3) After December 31, 2020, tank cars manufactured with non-normalized steel for head or shell construction may not be used for the transportation of PIH material.

(4) After December 31, 2027, tank cars not meeting the HM-246 tank car standard may not be used for the transportation of PIH material.

* * * * *

16. In § 173.56, revise paragraph (b) introductory text to read as follows:

§ 173.56 New explosives—definition and procedures for classification and approval.

* * * * *

(b) *Examination, classification and approval.* Except as provided in §§ 173.64, 173.65, and 173.67, no person may offer a new explosive for transportation unless that person has specified to the examining agency the ranges of composition of ingredients and compounds, showing the intended manufacturing tolerances in the composition of substances or design of articles which will be allowed in that material or device, and unless it has been examined, classed and approved as follows:

* * * * *

17. In § 173.59, revise the definition for consumer fireworks to read as follows:

§ 173.59 Description of terms for explosives.

* * * * *

Consumer firework. Any finished firework device that is in a form intended for use by the public that complies with any limits and requirements of the APA Standard 87-1A (IBR, see §171.7 of this subchapter) and the construction, performance, chemical composition, and labeling requirements codified by the U.S. Consumer Product Safety

Commission in 16 CFR parts 1500 and 1507. A consumer firework does not include firework devices, kits or components banned by the U.S. Consumer Product Safety Commission in 16 CFR 1500.17(a)(8).

* * * *

18. In § 173.64, revise paragraphs (a)(1) and (3) to read as follows:

§ 173.64 Exceptions for Division 1.3 and 1.4 fireworks.

(a) * * *

(1) The fireworks are manufactured in accordance with the applicable requirements in APA Standard 87-1A, 87-1B, and 87-1C (IBR, see § 171.7 of this subchapter);

* * *

(3) The manufacturer applies in writing to the Associate Administrator following the applicable requirements in APA Standard 87-1A, 87-1B, and 87-1C and is notified in writing by the Associate Administrator that the fireworks have been classed, approved, and assigned an EX number. Each application must be complete and include all relevant background data and copies of all applicable drawings, test results, and any other pertinent information on each device for which approval is being requested. The manufacturer must sign the application and certify that the device for which approval is requested conforms to APA Standard 87-1, that the descriptions and technical information contained in the application are complete and accurate, and that no duplicate application has been submitted to a fireworks certification agency. If the application is denied, the manufacturer will be notified in writing of the reasons for the denial. The

Associate Administrator may require that the fireworks be examined by an agency listed in § 173.56(b)(1) of this part.

* * * *

19. In § 173.65, revise paragraphs (a)(1), (a)(3)(i), and (a)(4)(iv) to read as follows:

§ 173.65 Exceptions for Division 1.4G consumer fireworks.

(a) * * *

(1) The fireworks are manufactured in accordance with the applicable requirements in APA Standard 87-1A (IBR, see § 171.7 of this subchapter);

* * * *

(3) * * *

(i) Certified that it complies with APA Standard 87-1A, and meets the requirements of this section; and

* * * *

(4) * * *

(iv) Signed certification declaring that the device for which certification is requested conforms to the APA Standard 87-1A, that the descriptions and technical information contained in the application are complete and accurate, and that no duplicate applications have been submitted to PHMSA. If the application is denied, the Fireworks Certification Agency must notify the manufacturer in writing of the reasons for the denial. As detailed in the DOT-approval issued to the Fireworks Certification Agency, following the issuance of a denial from a Fireworks Certification Agency, a manufacturer may seek reconsideration from the Fireworks Certification Agency, or may appeal the

reconsideration decision of the Fireworks Certification Agency to PHMSA's Associate Administrator.

* * * * *

20. Add § 173.67 to read as follows:

§ 173.67 Exceptions for Division 1.1 jet perforating guns.

(a) Notwithstanding the requirements of § 173.56(b), Division 1.1 jet perforating guns may be classed and approved by the Associate Administrator without prior examination and offered for transportation if the following conditions are met:

(1) The jet perforating guns are manufactured in accordance with the applicable requirements in IME/AESC JPG Standard (IBR, see § 171.7 of this subchapter);

(2) The jet perforating gun must be of a type described in the IME/AESC JPG Standard;

(3) The applicant applies in writing to the Associate Administrator following the applicable requirements in the IME/AESC JPG Standard, and is notified in writing by the Associate Administrator that the jet perforating gun has been classed, approved, and assigned an EX number. Each application must be complete and include all relevant background data, the applicable drawings, and any other pertinent information as described in the IME/AESC JPG Standard on each jet perforating gun for which approval is being requested. The manufacturer must sign the application and certify that the jet perforating gun for which approval is requested conforms to the IME/AESC JPG Standard and that the descriptions and technical information contained in the application are complete and accurate. If the application is denied, the applicant will be

notified in writing of the reasons for the denial. The Associate Administrator may require that the jet perforating gun be examined as provided under § 173.56(b)(1).

(b) [Reserved]

* * * * *

21. In § 173.151, revise paragraphs (b)(1)(i) and (ii) to read as follow:

§ 173.151 Exceptions for Class 4

* * * * *

(b) * * *

(1) * * *

(i) For flammable solids in Packing Group II, inner packagings not over 1.0 kg (2.2 pounds) or 1 L (0.3 gallon) net capacity each, packed in a strong outer packaging.

(ii) For flammable solids in Packing Group III, inner packagings not over 5.0 kg (11 pounds) or 0.5 L (1.3 gallon) net capacity each, packed in a strong outer packaging.

* * * * *

22. In § 173.244, revise paragraph (a)(2) table to read as follows:

§ 173.244 Bulk packaging for certain pyrophoric liquids (Division 4.2), dangerous when wet (Division 4.3) materials, and poisonous liquids with inhalation hazards (Division 6.1).

* * * * *

(a) * * *

(2) * * *

Table 1 to paragraph (a)(2)

Proper shipping name	Authorized tank car specification
Acetone cyanohydrin, stabilized (Note 1)	105J500W 112J500W
Acrolein (Note 1)	105J600W
Allyl Alcohol	105J500W 112J500W
Bromine	105J500W
Chloropicrin	105J500W 112J500W
Chlorosulfonic acid	105J500W 112J500W
Dimethyl sulfate	105J500W 112J500W
Ethyl chloroformate	105J500W 112J500W
Hexachlorocyclopentadiene	105J500W 112J500W
Hydrocyanic acid, aqueous solution <i>or</i> Hydrogen cyanide, aqueous solution <i>with not more than 20% hydrogen cyanide</i> (Note 2)	105J500W 112J500W
Hydrogen cyanide, stabilized (Note 2)	105J600W
Hydrogen fluoride, anhydrous	105J500W 112J500W
Poison inhalation hazard, Zone A materials not specifically identified in this table	105J600W
Poison inhalation hazard, Zone B materials not specifically identified in this table	105J500W 112J500W
Phosphorus trichloride	105J500W 112J500W
Sulfur trioxide, stabilized	105J500W 112J500W
Sulfuric acid, fuming	105J500W 112J500W
Titanium tetrachloride	105J500W 112J500W

Note 1: Each tank car must have a reclosing pressure relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). Restenciling to a lower test pressure is not authorized.

Note 2: Each tank car must have a reclosing pressure relief device having a start-to-discharge pressure of 15.51 Bar (225 psig). Restenciling to a lower test pressure is not authorized.

* * * *

23. In § 173.302, revise paragraph (a) to read as follows:

§ 173.302 Filling of cylinders with nonliquefied (permanent) compressed gases or adsorbed gases.

(a) *General Requirements.* (1) Except as provided in § 171.23(a)(3) of this subchapter, a cylinder filled with a non-liquefied compressed gas (except gas in solution) must be offered for transportation in accordance with the requirements of this section and § 173.301 of this subpart. In addition, a DOT specification cylinder must meet the requirements in §§ 173.301a, 173.302a, and 173.305 of the subpart, as applicable. UN pressure receptacles must meet the requirements in §§ 173.301b and 173.302b of this subpart, as applicable. Where more than one section applies to a cylinder, the most restrictive requirements must be followed.

(2) *Adsorbed gas.* Except as provided in § 171.23(a)(3) of this subchapter, a cylinder filled with an adsorbed gas must be offered for transportation in accordance with the requirements of paragraph (d) of this section, and §§ 173.301, and 173.302c of this subpart. UN cylinders must meet the requirements in §§ 173.301b and 173.302b of this subpart, as applicable. Where more than one section applies to a cylinder, the most restrictive requirements must be followed.

* * * *

24. In § 173.304, revise paragraph (a) introductory text to read as follows:

§ 173.304 Filling of cylinders with liquefied compressed gases.

(a) *General requirements.* Except as provided in § 171.23(a)(3) of this subchapter, a cylinder filled with a liquefied compressed gas (except gas in solution) must be offered for transportation in accordance with the requirements of this section and the general requirements in § 173.301 of this subpart. In addition, a DOT specification cylinder must meet the requirement in §§ 173.301a, 173.304a, and 173.305 of this subpart, as applicable. UN pressure receptacles must be shipped in accordance with the requirements in §§ 173.301b and 173.304b of this subpart, as applicable.

* * * * *

25. In § 173.308, revise paragraph (d) to read as follows:

§ 173.308 Lighters.

* * * * *

(d) *Shipping paper and marking requirements.* (1) In addition to the requirements of subpart C of part 172, shipping papers must be annotated with the lighter design test report identifier (see paragraph (b)(4)(i)(C) of this section) traceable to the test report assigned to the lighters or, if applicable, the previously issued approval number (*i.e.*, T***), in association with the basic description.

(2) In addition to the requirements of subpart D of part 172, a lighter design test report identifier (see paragraph (b)(4)(i)(C) of this section) or, if applicable, the previously issued approval number (*i.e.*, T***), must be marked on a package containing lighters.

* * * * *

26. In § 173.314, in paragraph (c), revise the table to read as follows:

§ 173.314 Compressed gases in tank cars and multi-unit tank cars.

* * * * *

(c) * * *

Proper shipping name	Outage and filling limits (see note 1)	Authorized tank car class (see note 11)	Authorized tank car specification (see note 12)
Ammonia, anhydrous, or ammonia solutions >50 percent ammonia	Notes 2, 10	105, 112, 114, 120	105J500W, 112J500W
	Note 3	106	
Ammonia solutions with >35 percent, but ≤50 percent ammonia by mass	Note 3	105, 109, 112, 114, 120	
Argon, compressed	Note 4	107	
Boron trichloride	Note 3	105, 106	
Carbon dioxide, refrigerated liquid	Note 5	105	
Chlorine	Note 6	105	105J600W
	125	106	
Chlorine trifluoride	Note 3	106, 110	
Chlorine pentafluoride	Note 3	106, 110	
Dimethyl ether	Note 3	105, 106, 110, 112, 114, 120	
Dimethylamine, anhydrous	Note 3	105, 106, 112	
Dinitrogen tetroxide, inhibited	Note 3	105, 106, 112	105J500W
Division 2.1 materials not specifically identified in this table	Notes 9, 10	105, 106, 110, 112, 114, 120	
Division 2.2 materials not specifically identified in this table	Note 3	105, 106, 109, 110, 112, 114, 120	
Division 2.3 Zone A materials not specifically identified in this table	None	See §173.245.	105J600W
Division 2.3 Zone B materials not specifically identified in this table	Note 3	105, 106, 110, 112, 114, 120	105J600W
Division 2.3 Zone C materials not specifically identified in this table	Note 3	105, 106, 110, 112, 114, 120	105J500W
Division 2.3 Zone D materials not specifically identified in this table	Note 3	105, 106, 109, 110, 112, 114, 120	105J500W, 112J500W
Ethylamine	Note 3	105, 106, 110, 112, 114, 120	
Helium, compressed	Note 4	107	
Hydrogen	Note 4	107	
Hydrogen chloride, refrigerated liquid	Note 7	105	105J600W, 112S600W
Hydrogen sulfide	Note 3	105, 106, 110, 112, 114, 120	105J600W
Hydrogen sulfide, liquefied	68	106	
Methyl bromide	Note 3	105, 106	105J500W

Methyl chloride	Note 3	105, 106, 112	
Methyl mercaptan	Note 3	105, 106	105J500W
Methylamine, anhydrous	Note 3	105, 106, 112	
Nitrogen, compressed	Note 4	107	
Nitrosyl chloride	124	105	105J500W
	110	106	
Nitrous oxide, refrigerated liquid	Note 5	105	
Oxygen, compressed	Note 4	107	
Phosgene	Note 3	106	
Sulfur dioxide, liquefied	125	105, 106, 110	105J500W
Sulfuryl fluoride	120	105	
Vinyl fluoride, stabilized	Note 8	105	

NOTES: 1. The percent filling density for liquefied gases is hereby defined as the percent ratio of the mass of gas in the tank to the mass of water that the tank will hold. For determining the water capacity of the tank in kilograms, the mass of 1 L of water at 15.5 °C in air is 1 kg. (the mass of one gallon of water at 60 °F in air is 8.32828 pounds).

2. The liquefied gas must be loaded so that the outage is at least two percent of the total capacity of the tank at the reference temperature of 46 °C (115 °F) for a noninsulated tank; 43 °C (110 °F) for a tank having a thermal protection system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22 kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/per degree F) temperature differential; and 41 °C (105 °F) for an insulated tank having an insulation system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour/per square foot/per degree F) temperature differential.

3. The requirements of §173.24b(a) apply.

4. The gas pressure at 54.44 °C (130 °F.) in any non-insulated tank car may not exceed $\frac{7}{10}$ of the marked test pressure, except that a tank may be charged with helium to a pressure 10 percent in excess of the marked maximum gas pressure at 54.44 °C (130 °F.) of each tank.

5. The liquid portion of the gas at -17.77 °C (0 °F.) must not completely fill the tank.

6. The maximum permitted filling density is 125 percent. The quantity of chlorine loaded into a single unit-tank car may not be loaded in excess of the normal lading weights nor in excess of 81.65 Mg (90 tons).

7. 89 percent maximum to 80.1 percent minimum at a test pressure of 6.2 Bar (90 psig).

8. 59.6 percent maximum to 53.6 percent minimum at a test pressure of 7.2 Bar (105 psig).

9. For a liquefied petroleum gas, the liquefied gas must be loaded so that the outage is at least one percent of the total capacity of the tank at the reference temperature of 46 °C (115 °F) for a noninsulated tank; 43 °C (110 °F) for a tank having a thermal protection system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22

kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/per degree F) temperature differential; and 41 °C (105 °F) for an insulated tank having an insulation system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour/per square foot/per degree F) temperature differential.

10. For liquefied petroleum gas and anhydrous ammonia, during the months of November through March (winter), the following reference temperatures may be used: 38 °C (100 °F) for a noninsulated tank; 32 °C (90 °F) for a tank having a thermal protection system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22 kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/per degree F) temperature differential; and 29 °C (85 °F) for an insulated tank having an insulation system incorporating a metal jacket and insulation that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour/per square foot/per degree F) temperature differential. The winter reference temperatures may only be used for a tank car shipped directly to a consumer for unloading and not stored in transit. The offeror of the tank must inform each customer that the tank car was filled based on winter reference temperatures. The tank must be unloaded as soon as possible after March in order to retain the specified outage and to prevent a release of hazardous material which might occur due to the tank car becoming liquid full at higher temperatures.

11. For materials poisonous by inhalation, the single unit tank car tanks authorized are only those cars approved by the Tank Car Committee for transportation of the specified material and built prior to March 16, 2009.

12. Except as provided by paragraph (d) of this section, for materials poisonous by inhalation, fusion-welded tank car tanks built on or after March 16, 2009 used for the transportation of the PIH materials noted, must meet the applicable authorized tank car specification and must be equipped with a head shield as prescribed in §179.16(c)(1).

PART 178—SPECIFICATIONS FOR PACKAGINGS

27. The authority citation for part 178 continues to read as follows:

Authority: 49 U.S.C. 5101-5128; 49 CFR 1.81 and 1.97.

28. In § 178.35, revise paragraphs (b)(2) and (c) as follows:

§ 178.35 General requirements for specification cylinders.

* * * * *

(b) * * *

(2) For DOT Specifications 3B, 3BN, 3E, 4B, 4BA, 4B240ET, 4AA480, 4L, 8, 8AL, 4BW, 4E, 4D (with a water capacity less than 1,100 cubic inches) and Specification 39 (with a marked service pressure 900 psig or lower) and manufactured within the United States, a competent inspector of the manufacturer.

(c) *Duties of inspector.* The inspector shall determine that each cylinder made is in conformance with the applicable specification. Inspections shall conform to CGA C-11 (IBR, see § 171.7 of this subchapter) except as otherwise specified in the applicable specification.

(1) Seamless cylinders shall be inspected in accordance with Section 5 of CGA C-11. For cylinders made by the billet-piercing process, billets must be inspected and shown to be free from piping (laminations), cracks, excessive segregation and other injurious defects after parting or, when applicable, after nick and cold break.

(2) Welded cylinders shall be inspected in accordance with Section 6 of CGA C-11. Note: The recommended locations for test specimens are depicted in Figures 1 through 5 in appendix A to subpart C of part 178.

(3) Non-refillable cylinders shall be inspected in accordance with Section 7 of CGA C-11

(4) *Inspector's report.* The inspector shall prepare a report containing, at a minimum, the applicable information listed in CGA C-11. Any additional information or markings that are required by the applicable specification must be shown on the test report. The signature of the inspector on the reports certifies that the processes of manufacture and heat treatment of cylinders were observed and found satisfactory. The inspector must furnish the completed test reports required by this subpart to the maker of

the cylinder and, upon request, to the purchaser. The test report must be retained by the inspector for 15 years from the original test date of the cylinder.

* * * * *

29. In § 178.521, revise paragraph (b)(4) as follows:

§ 178.521 Standards for paper bags.

* * * * *

(b) * * *

(4) UN5M1 and UN5M2 multi-wall paper bags that have paper wall basis weights that vary by not more than plus or minus 10 percent from the nominal basis weight reported in the initial design qualification test report.

PART 179—SPECIFICATIONS FOR TANK CARS.

30. The authority citation for part 179 continues to read as follows:

Authority: 49 U.S.C. 5101-5128; 49 CFR 1.81 and 1.97.

31. In § 179.22, revise paragraph (e) as follows:

§ 179.22 Marking.

* * * * *

(e) Each tank car manufactured after March 16, 2009 to meet the requirements of § 173.244(a)(2) or (3) or § 173.314(c) or (d) that is marked with the letter “I” in the specification marking, following the test pressure, shall be re-marked with the letter “W”

at the tank car's next qualification. (Example: DOT 105J600I would be re-marked as 105J600W.)

**PART 180—CONTINUING QUALIFICATION AND MAINTENANCE OF
PACKAGINGS**

32. The authority citation for part 180 continues to read as follows:

Authority: 49 U.S.C. 5101–5128; 49 CFR 1.81 and 1.97.

33. In § 180.417, revise paragraph (a)(3) introductory text to read as follows:

§ 180.417 Reporting and record retention requirements.

* * * * *

(a) * * *

(3) *DOT Specification cargo tanks.*

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